```
3700
                                                                                                                                                                                                                                                                                                                                                                                           3760 GGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAGGACCA 3819
3527 TGAGGGGAGACATTTAAAGTGAAACAGACAGCCAGGTGTGGTGGCTCACGCCTGTAATCC 3586
                                                                                                                                                                                                                                                                                                                       3647 GAGCAACATGGCAAAACCCTGTTTCT-----ATAACAAAATTAGCCGGGCATGGTGGC
                                                                                                                                                                                                                            3701 ATGTGCCTGTGGTCCCAGCTACTAGGG-GGCTGAGGCAGGAGATCTTTGGAGCCCAGGA
                                                2951 TCTAATGTATGTATTAAGGATGAACC-CCGGCTGGGCGCAGTGGCTCACCTGTAATCC
                                                                                                CAGCACTCTGGGAGGCTGAGGTGGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCT
                                                                                                                         2892 CAGCACTTTGGGAGGCCGAGGCGGGTAGATCACTTGAGGTCAGGAGTTCGAGACCTGAGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3820 GACCTTGCCTCAAAAAATAAGAAGAAAATTAAAAATAAAATGGAAACAACT 3871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2652 GACAACGTCTCAAAAATAAAAATAAAATAAAATAAAAATGAAACCCCTCT 2601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-724-394A-21/C
Sequence 21, Application US/08724394A
Sequence 21, Application US/08724394A
Sequence 21, Application US/08724394A
Sequence 21, Application
Sequence 21, Application
Sequence 21, Application
Sequence 21, Application
Sequence 21, Applicant: Feder, John N.
Septicant: Ruddy, David A.
Septicant: Thomas, Winston
Applicant: Thomas, Winston
Applicant: Wolff, Roger K.
Sequence 21, Application
Sequence 31, Sequence 31, TITLE OF INVENTION: Sequences and Antibodies Thereto
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/724,394A FILING DATE: 01-OCT-1996 CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOWNSEND and TOWNSEND and CREW LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: Two Embarcadero Center, 8th Floor
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       017957-000100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35,136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-576-0200
TELEFAX: 415-576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: not relevant TOPOLOGY: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 21: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 246240 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: Fitts, Renee A.
REGISTRATION NUMBER: 35,1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: misc_feature
LOCATION: 1..246240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX:
                                                                                                3587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE:
                                             Q
                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                ò
                                                                                                                                           g
                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATCTGGC -- CTAGGATCCATTTAGATTAAAATATGCATTTTAAAATTTTAAAATAATATG 3435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3436 GCTAATTTTT-----3436 GCTAATTTTT-----3436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3467 GGTAATAAATCTAGTTTGCTGCCTAAAGTTTAAAGTGCTTTCCAATAAGCTTCATGTACG 3526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3071 GTCTCGATCTCCTGACCTCGTGATCCGCCCTCGGCCTCCCAAAGTGCTGGGATTACA 3012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3319 CTCAAGCAATCCTCCTGCCTTGGCCTCCCAAAGTGTTGGGA-TACAGTCATGAGCCACTG 3377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3199 ITTITAGTATTCATTTTATGTTTTTATGTTTTTGATTTTTAAAAGACAATCTCACCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3259 GITACCCAGGCTGGAGTGCAGTGGTAGATCATAGCTTTCTGCAGTCTTGAACTCCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40; Gaps
          APPLICANT: Lauer, Peter M.
APPLICANT: Ruddy, David A.
APPLICANT: Thomas, Winston
APPLICANT: Thomas, Winston
APPLICANT: Thomas, Winston
APPLICANT: Wolff, Roger K.
TITLE OF INVENTION: Megabase Transcript Map: No. 5872237e1
TITLE OF INVENTION: Sequences and Antibodies Thereto
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
ADDRESSEE: TWONSEND and TOWNSEND and CREW LLP
STREET: TWO Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 246240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 3.6%; Score 199.2; DB 2; Length Best Local Similarity 61.7%; Pred. No. 2.9e-32; Matches 439; Conservative 0; Mismatches 233; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/724,394A
FILING DATE: 01-OCT-1996
CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; NAME/KEY: misc_feature
; LOCATION: 1..246240
; OTHER INFORMATION: /note= "HLA-H.CONTIG"
US-08-724-394A-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Fits, Renee A.
REGISTRATION NUMBER: 35,136
REPRENCE/DOCKET NUMBER: 017957-000100
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-576-0200
TELEPHONE: 415-576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SS: not relevant
not relevant
  Kronmal, Gregory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 20: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 246240 base pairs
                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3378
```

Q

a

ò

g ò qq ò g à

ò

œ

```
8th Floor
                                                                                                                                                                                                                                                                                                                                                                                ; NAME/KEY: misc_feature
; LCGATION: 1..246240
; OTHER INFRMATION: /note= "HLA-H.CONTIG"
US-08-724-394A-22
            Two Embarcadero Center,
                                                                                                   IBM PC compatible
                                                                                                                                                                                                                                                                                                                 nucleic acid
DEDNESS: not relevant
DGY: not relevant
                                                                                                                                                                                                                                                                                                       LENGTH: 246240 base pairs
                                                       ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatit
                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 3.6%
Best Local Similarity 61.7%
Matches 439; Conservative
                        San Francisco
                                                 USA
                                                                                                                                                                                                                                                                                                                  TYPE: nuclei
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE:
                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               òγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                              3258
                                                                                                                      3252
                                                                                                                                                 3318
                                                                                                                                                      3319 CICAAGCAAICCICCIGCCIIGGCCICCCAAAGIGIIGGGA-IACAGICAIGAGCCACIG 3377
                                                                                                                                                                                                       3131 CGCCCGCCTAATTTTTTTTTTTAGTAGACGGGTTTCACCGTTTTAGCCGGGATG 3072
                                                                                                                                                                                                                                                                                           GCTAATTTTT-----3465
                                                                                                                                                                                                                                                                                                                  3071 GICICGAICICCIGACCICGIGAICCGCCCGCCTCGGCCTCCCAAAGIGCTGGGAITACA 3012
                                                                       9
                                                                                                                                                                                                                                                                                                                                            3467 GGTAATAAATCTAGTTTGCTGCCTAAAGTTTAAAGTGCTTTCCAATAAGCTTCATGTACG 3526
                                                                                                                                                                                                                                                                                                                                                                     3011 GGCGTGAGCCACCGCCCCGGCCTTATAAAGACTTTTTAGATAAAAACAGAATCTATATC 2952
                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCACTCTGGGAGGCTGAGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCT 3646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3701 ATGTGCCTGTGGTCCCAGCTACTAGG-GGCTGAGGCAGGAGAATCTTTGGAGCCCAGGA 3759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAGGACCA 3819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3199 TITITAGTATICATITIATGTITITIATGTITITTGATTTTTTAAAAGACAATCTCACCT
                                                                                                                                       3259 GTTACCCAGGCTGGAGTGCAGTGGTGCAATCATAGCTTTCTGCAGTCTTGAACTCCTGGG
                                                                                                                                                                                                                                                                                                                                                                                             TGAGGGGAGACATTTAAAGTGAAACAGACAGCCAGGTGTGGTGGCTCACGCCTGTAATCC
                                                                                                                                                                                                                                                                                                                                                                                                              1892 CAGCACTTTGGGAGGCCGAGGCGGTAGATCACTTGAGGTCAGGAGTTCGAGACCTGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGCAACATGGCAAAACCCTGTTTCT-----ATAACAAAATTAGCCGGGCATGGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 246240;
                                                                    40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: TOOMALL, Gregory S.
APPLICANT: Lauer, Peter M.
APPLICANT: Ruddy, David A.
APPLICANT: Thomas, Winston
APPLICANT: Tsuchihashi, Zenta
APPLICANT: Wolff, Roger A.
TITLE OF INVENTION: Megabase Transcript Map: No. 5872237el
TITLE OF INVENTION: Sequences and Antibodies Thereto
CORRESPONDENCE ADDRESS:
                                                                   Indels
                                       Score 199.2; DB 2;
Pred. No. 2.9e-32;
0; Mismatches 233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LLP
  /note= "HLA-H.CONTIG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOWNSEND and TOWNSEND and CREW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5-08-724-394A-22/C
Sequence 22, Application US/08724394A
Patent No. 5872237
GENERAL INFORMATION:
APPLICANT: Feder, John N.
                                  Query Match 3.6%;
Best Local Similarity 61.7%;
Matches 439; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Feder, John N.
; OTHER INFORMATION:
US-08-724-394A-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                           3378
                                                                                                                                                                                                                                                                                             3436
                                                                                                                                                                                                                                                                                                                                                                                               3527
                                                                                                                                                                                                                                                                                                                                                                                                                                                 3587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                      ð
                                                                                                                                      ò
                                                                                                                                                             g
                                                                                                                                                                                        ò
                                                                                                                                                                                                             q
                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

```
3258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3378 CATCTGGC--CTAGGATCCATTTAGATTAAAATATGCATTTTAAATTTTAAAATAATATG 3435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3436 GCTAATTTT-----3465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3071 GTCTCGATCTCCTGACCTCGTGATCCGCCCTCCGCCTCCCAAAGTGCTGGGATTACA 3012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3467 GGTAATAAATCTAGTTTGCTGCCTAAAGTTTAAAGTGCTTTCCAATAAGCTTCATGTACG 3526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3647 GAGCAACATGGCAAAACCCTGTTTCT----ATAACAAAATTAGCCGGGCATGGTGGC 3700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3199 ITTTTAGTATTCATTTTATGTTTTTATGTTTTTTGATTTTTTAAAAGACAATCTCACCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3311 TITITATAAAGACTTTTTTTTTTTTTTTTTTTTTTTGAGAGGAGTCTTGCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3259 GTTACCCAGGCTGGAGTGCAGTGGTAGATCATAGCTTTCTGCAGTCTTGAACTCCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3319 CTCAAGCAATCCTCCTGCCTTGGCCTCCCAAAGTGTTGGGA-TACAGTCATGAGCCACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3131 CGCCCGGCTAATTTTTTTTTTTTAGTAGACGGGGTTTCACCGTTTTAGCCGGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGAGGGGAGACATTTAAAGTGAAACAGACAGCCAGGTGTGGTGGCTCACGCCTGTAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCACTCTGGGAGGCTGAGGTGGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 246240:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
CUMPLAIR.

CUMPLAIR.

COMPLAIR.

CORRANIC SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DAFA:

APPLICATION NUMBER: US/08/724,394A

FILING DATE: 01-OCT-1996

CLEASSIFICATION: 53 6

ATTORNEY/ACENT INFORMATION:

NAME: Fitts, Renee A.

REFERENCE/DOCKEF NUMBER: 01/7957-000100

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELEPHONE: 415-576-0200

INFORMATION FOR SEQ ID NO: 22:

SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3.6%; Score 199.2; DB 2;
61.7%; Pred. No. 2.9e-32;
ive 0; Mismatches 233;
```

ġ

σ

```
15377 ATTGTTAGAACTTTTATGGAAATTTAAGGAAAAAAATGTCATCTGTTTGGCTGAC 15436
                                                                                                                                                                                                                                                                                                                                                                        15617 ACTTGGCTAATTTTGTATTTTAAGTAGAACCGGGTTTCACTATGTTGGTCAGGCTGGT 15676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15677 TTCGAACTCCTGACCTCAAGTGATCAC----CCACCTTGGCCTCCCAAAGTGCTTGGAT 15731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15732 TACAGACATGAGCCACCACCACGGCCAAGAGGACTTCTTTAAAAATGATTTCTTGGGC 15791
                                                                                                                                                                                                                                                                                                         3259
                                                                                                                                                                                                       ů,
                                                                                                                                                                                                                                     3140 ATGGTAATTACCATAAAAATTAWTATCCTTTTAAAATAAAGCTAATTATTATTGGATCTT 3199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3439 AATTTTTACCTTATGTAATGTGTATACTGGTAATAAATCTAGTTTGCTGCCTAAAGTTTA 3498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3619 CTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCT----- 3672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGGCAGGAGAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGCGCCA 3791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16030 CTGCACTCCAGCCTGGGCAACAGAGCACTCTGCCTCCAAAAATAAAAA 16086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3200 TTTTAGTATTCATTTTATGTTTTTATGTTTTTGATTTTTAAAAGACAATCTCACCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCTGGCCTAGGATCCATTTAGATTAAAATATGCATTTTAAAATTTTAAAATAATATGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                       15;
                                                                                                                                                                  Length 17327;
                                                                                                                                                                  Query Match 3.5%; Score 195; DB 1; Length 17 Best Local Similarity 59.3%; Pred. No. 9.5e-32; Matches 425; Conservative 1; Mismatches 276; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1, Application US/09009913
Patent No. 6087485
GENERAL INFORMATION:
APPLICANT: AxyS Pharmaceuticals, Inc.
TITLE OF INVENTION: Asthma Related Genes
NUMBER OF SEQUENCES: 339
CORRESPONDENCE ADDRESS:
                                                                                                    exon
16397..17327
                                                   intron
9745..16396
                   9597..9744
NAME/KEY:
LOCATION:
                                                 NAME/KEY:
LOCATION:
                                                                                                                    ; LOCATION:
US-07-906-871-15
                                                                                                   NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-009-913-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3732
                                                                                                                                                                      Query Match
                                 FEATURE:
                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 9
                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                       Shalom
HEMATOPOIETIC CELL SPECIFIC
TRANSCRIPTIONAL REGULATORY ELEMENTS OF SERGLYCIN AND USES
THEREOF
3701 ATGTGCCTGTGGTCCCAGCTACTAGGG-GGCTGAGGCAGGAGATCTTTGGAGCCCAGGA 3759
                                                                   3819
                                                                                                   2653
                   2772 AGGCACCTGTAATCCCAGCTGCTTGGGAGACTGAGGCAGGAGAATCGTTGAACCCTGGGA
                                                               GGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAGGACCA
                                                                                    COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/906,871
FILING DATE: 19920103
CLASSIFICATION: 435
PRIOR APPLICATION:
                                                                                                                                                                                                                                                                                                  APPLICANT: Stevens, Richard L.
APPLICANT: Avraham, Shalom
TITLE OF INVENTION: TRANSCRIPTIONAL REGULATORY ELEM
TITLE OF INVENTION: THEREOF
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSE: Sterne, Kessler, Goldstein & Fox
STREET: 1225 Connecticut Avenue, N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0627.2830004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR ATTLACTION DIMBER: US/07/816,289
FILING DATE: 03 JAN 1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/635,544
FILING DATE: 18-JAN-1991
PRIOR APPLICATION UNBER: PCT/US89/03051
FILING DATE: 13-JUL-1889
PRIOR APPLICATION NUMBER: US/07/224,035
APPLICATION NUMBER: US/07/224,035
APPLICATION NUMBER: US/07/224,035
APPLICATION NUMBER: US/07/224,035
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                  US-07-906-871-15
; Sequence 15, Application US/07906871
; Patent No. 5340739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Cimbala, Michele A
REGISTRATION NUMBER: 33,851
REFERENCE/DOCKET NUMBER: 06
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)833-7533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            : 17327 base pairs NUCLEIC ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (202)833-8716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      754..9596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS: both
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear MOLECULE TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Washington
                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE:
TELEFAX: (2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: W
STATE:
                                                               3760
                                                                                           g
                                                                                                                                                                q
ò
                              g
                                                               ò
                                                                                                                               ò
```

```
0; Mismatches
                                                                                                                     Query Match 3.5%; Score 193.8; Best Local Similarity 78.7%; Pred. No. 2.3 Matches 259; Conservative 0; Mismatches
            SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 3 LENGTH: 43950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: unsure
LOCATION: 24962
OTHER INFORMATION: unknown
NAME/KEY: unsure
LOCATION: 64383
OTHER INFORMATION: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unknown
                                                                       ORGANISM: Homo sapiens
US-09-735-934A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: unsure
LOCATION: 65468
OTHER INFORMATION: un
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCATION: 65469
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: unsure
LOCATION: 65470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: unsure
LOCATION: 65471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 11
US-09-791-211-10/c
                                            43950
                                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA
                                                                                                                                                                                 ò
                                                                                                                                                                                                            g
                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                Pp
                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5317 CCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCA 5376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5377 AGCAAAGCTGTCGCCTCCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACACT 5436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3, Application US/09735934A

Batent No. 6372468

GENERAL INFORMATION:
APPLICANT: LI, JIAYIN et al

TITLE OF INVENTION: ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES

TITLE OF INVENTION: THEREOF

FILE REFERENCE: CL000851

CURRENT APPLICATION NUMBER: US/09/735,934A

NUMBER OF SEQ ID NOS: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5257 TAITACTCTTTCTTTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTTGGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5437 CGGCTAATGTTTGTATTTTAGTAGAGATGGGGGTTTCACCATGTTGGCCAGGCTGGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 72928;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .7e-31;
hes 38; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 3;
                                                                         ZIP: 94301
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/009,913
FILING DATE: 21-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. 1.7e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 194.8;
ADDRESSEE: Bozicevic & Reed, LLP
STREET: 285 Hamilton Ave, Suite 200
                                                                                                                                                                                 JMBER: US/09/009,913
21-JAN-1998
                                                                                                                                                                                                                                                                                       NAME: Sherwood, Pamela J
REGISTRATION NUMBER: 36,677
REFERENCE/DOCKET NUMBER: SEQ-
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-327-3231
TELEFAX: 650-327-3231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5497 AAACTCCTGACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: LENGTH: 72928 base pairs TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 3.5%;
Best Local Similarity 84.8%;
Matches 217; Conservative
                                                                                                                                                                                                                                                         FILING DATE: ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TOPOLOGY: linear
; MOLECULE TYPE: Genomic DNA
US-09-009-913-1
                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           double
               STREET: 285 Hamil
CITY: Palo Alto
STATE: CA
COUNTRY: USA
                                                                                                                                                                                                                CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-735-934A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
14617
                                                                                                                                                                      14677
                                                                                                                                                                                                                   3595
                                                                                                                                                                                               3556 GGCAAAACCCTGTTTCTATAA-----CAAAAATTAGCCGGGCATGGTGGCATGTGCCT 3708
                                                                                                                                                                                                                                                               3709 GTGGTCCCAGCTACTAGGG-GGCTGAGGCAGAGAATCTTTGGAGCCCCAGGAGGTCAAGG 3767
                                                            3536 ACATTTAAAGTGAAACAGACCAGGTGTGTGGTGGCTCACGCCTGTAATCCCAGCACTCT
                                                                               3596 GGGAGGCTGAGGTGGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACAT
                                                                                                                                                 3768 CIGCACTGAGCAGTGCTTGCGCCACTGCACTGGGCTGGGTGACAGGACCAGACCTTGC
                                       Gaps
                                   .;
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 10, Application US/09791211
Fatent No. 6448080
GENERAL INFORMATION:
APPLICANT: Donna T. Ward
TITLE OF INVENTION: ANTISENSE MODULATION OF WRN EXPRESSION
FILER REFERENCE: RTS-0205
CURRENT APPLICATION NUMBER: US/09/791,211
CURRENT FILING DATE: 2001-02-23
NUMBER OF SEQ ID NOS: 90
LENGTH: 98844
                                   Indels
                                 62;
DB 4;
                 Pred. No. 2.3e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: unsure
LOCATION: 87130
```

δ

ò

à

ò g

```
93169 GTGGCGCAATCCCGGCTCACTACAACTTCCACCGCTTCAAGCTATTCTCCTGCCT 93228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93049 TTTAAAGGCATTTTAAATATATATGTTAAGAAGTTTTCAAAAGCCTATATTTACTTTTT 93108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3339 TGGCCTCCCAAAGTGTTGGGA-TACAGTCATGAGCCACTGCATCTGGCCTA-GGATCCAT 3396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCACTGCACTCCAGCCTGGGTGACAGGACCAGACCTTGCCTCAAAAAAATAAGAAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3159 ITAWIATCCTTTTAAAATAAAGCTAATTATTATTGGATCTTTTTTAGTATTCATTTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3219 TITITIAGETITITIGATITITIAAAAGACAATCTCACCCTGTTACCCAGGCTGGAGTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGGTGCAATCATAGCTTTCTGCAGTCTTGAACTCCTGGGCTCAAGCAATCCTCCTGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 98844;
                                                                                                                                                                                 RESULT 13
US-09-791-211-10
Sequence 10, Application US/09791211
Sequence 10, Application US/09791211
Sequence 10, Application US/09791211
SPELCAMT: Donna T. Ward
APPLICAMT: Andrew T. Watt
TITLE OF INVENTION: ANTISENSE MODULATION OF WRN EXPRESSION
FILE REPERBENCE: RTS-0205
CURRENT APPLICATION UNMBER: US/09/791,211
CURRENT FILING DATE: 2001-02-23
NUMBER OF SEQ ID NOS: 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        258;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 190.8; DB 4
Pred. No. 1.3e-30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1; Mismatches
                                                                                                                                     11929 ACCAAAAAAAA 11941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.5%;
                                                                                                          3848 AATTAAAATAAA 3860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 61.1<sup>1</sup>
Matches 428; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: unsure
LOCATION: 65468
LOCATION: 65468
LOCATION: 65469
OTHER INFORMATION: un
NAME/KEY: unsure
LOCATION: 65470
OTHER INFORMATION: un
NAME/KEY: unsure
LOCATION: 65470
LOCATION: 65471
LOCATION: 65471
OTHER INFORMATION: unsure
                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCATION: 24962
OTHER INFORMATION: u
NAME/KEY: unsure
LOCATION: 64383
OTHER INFORMATION: u
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: unsure
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: unsure
LOCATION: 87130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: unsure
LOCATION: 89049
                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 10
LENGTH: 98844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; OTHER INFORM!
US-09-791-211-10
                                                3788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3279
                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                  δ
                                                                           g
                                                                                                         ò
                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3, Application US/09729995
Patent No. 6426206
GENERAL INFORMATION:
APPLICANT: WELL WING-Hui et al
TITLE OF INVENTION: ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
TITLE OF INVENTION: THEREOF
FILE REFERENCE: CLOO09904
CURRENT APPLICATION NUMBER: US/09/729,995
CURRENT FILING DATE: 2000-12-06
NUMBER OF SEQ ID NOS: 4
SOFTWARE: RESERSEQ for Windows Version 4.0
SEQ ID NO 3
LENGTH: 29629
                                                                                                                                                                                                                                5281
                                                                                                                                                                                                                                                                                                                                                      5401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3727
                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                      5221
                                                                                                                                                                                                                                                                                                                                                                                                              GGGTAGATGGGATTACAGGCGCCCACCACCACACTCGGCTAATGTTTGTATTTTTAGTAG 5461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3728 GGCTGAGGCAGGAGAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGC 3787
                                                                                                                                                                                                                                                                                                                                                  YCATAGCICACTGCAACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCC
                                                                                                                                                                   5162 GACACTATGATTTTGAGATTTAAAAAATCTTTAATATTTTAAAAATTTAGAGCTCTTCTA
                                                                                                                                                                                                                              3615 ATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----ATAACAAAAATTAGCCGGGCATGGTGGCATGTGCTGTGGTCCCAGCTACTAGGG-
                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7;
                                                                                                          DB 4; Length 98844;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 29629;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55; Indels
                                                                                                                                        Indels
                                                                                                                                        98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 191; DB 4;
Pred. No. 7.8e-31;
0; Mismatches 55
                                                                                                                          3e-31;
                                                                                                                                     1; Mismatches
                                                                                                         3.5%; Score 193.8; 71.8%; Pred. No. 3e-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 3.5%;
Best Local Similarity 80.2%;
Matches 251; Conservative
                                                                                                                                        Conservative
; OTHER INFORMATION: u
; NAME/KEY: unsure
; LOCATION: 89049
; OTHER INFORMATION: US-09-791-211-10
                                                                                                                       al Similarity
252; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Human
US-09-729-995-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
US-09-729-995-3
                                                                                                                                                                                                                                                                                                                                                  5342
                                                                                                                                                                                                                              5222
                                                                                                                                                                                                                                                                                        5282
                                                                                                                                                                                                                                                                                                                                                                                                              5402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
                                                                                                         Query Match
                                                                                                                        Local
                                                                                                                       Best Loca
Matches
                                                                                                                                                                                             셤
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

.;

ò

```
88739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88679
                 18451
                                                                 88859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3461
                                                                                                                  3775 GAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAGGACCAGACCTTGCCTCAAAA 3834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3
                                                                                                                                                                                                     3835 AAATAAGAAGAAAATTAAAAATAAATGGAAACAACTACAAAGAGGCTGTTGTCCTAG 3891.
AGCCTGAGCAACATGGCAAAACCCTGTTTCT-----ATAACAAAATTAGCCGGGCAT
                                                  CAGCTACTAGGG-GGCTGAGGCAGGAGATCTTTGGAGCCCAGGAGGTCAAGGCTGCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3402 TTAAAATATGCATTTTAAATTTTAAAATAATATGGCTAATTTTTACCTTATGTAATGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88918 TTAAAAATTTTAAATGTTCTGGAGGTGGATAGTGACGATGGTTGCACTATAAGGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3462 ATACTGGTAATAAATCTAGTTTGCTGCCTAAAGTTTAAAGTGCTTTCCAATAAGCTTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        88858 ATACTTAATGTCATTGAACTATACACTTAAAACTGATTAAGTTGTTGTATTATTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTACGTGAGGGGAGACATTTAAAGTGAAACAGACAGCCAGGTGTGGTGGCTCACGCCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AATCCCAGCACTCTGGGAGGCTGAGGTGGGTGGATCGCTTGAGCCCTGGAGTTCAAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 168575;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches 163;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.4%; Score 188.2; DB 4 ilarity 64.7%; Pred. No. 5.2e-30; Conservative 0; Mismatches 163
                                                                                                                                                                                                                                                                                            Sequence 1, Application US/09426290
Patent No. 6410712
GENERAL INFORMATION:
APPLICANT: Berglind Ran Olafsdottir
APPLICANT: Jeffrey Gulcher
TITLE OF INVENTION: HUMAN NARCOLEPSY GENE
FILE REFERENCE: 2345.2001-000
CURRENT APPLICATION NUMBER: US/09/426,290
CURRENT FILING DATE: 1999-10-25
NUMBER OF SEQ ID NOS: 24
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION: (101753)...(101996)
NAME/KEY: CDS
LOCATION: (101324)...(110439)
NAME/KEY: CDS
LOCATION: (124058)...(124278)
NAME/KEY: CDS
LOCATION: (127009)...(127130)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      , LOCATION: (127009) ...(127130);
NAME/KEY: CDS
; LOCATION: (128910) ...(129139)
US-09-426-290-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
NAME/KEY: CDS
LOCATION: (21181)...(21403)
NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (95252)...(95430)
CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo Sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity
Matches 314; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 168575
                                                                                                                                                                                                                                                                  RESULT 15
US-09-426-290-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCATION:
NAME/KEY: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3522
                                                  3716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                 g
                                                ò
                                                                               g
                                                                                                                  ò
                                                                                                                                               g
                                                                                                                                                                                    ò
                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                  93407
                                                                                                                                                                                                     18571
                                                                                                                                                                                                                                                  3633
                                                                                                                                                                                                                                                                                                                  TCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATA----ACAAAAATTAGC 3687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3662 ACCCTGTTTCT----ATAACAAAATTAGCCGGGCATGGTGGCATGTGCCTGTGGTCC 3715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ć
93229 CAGTCTCCCAAGTAGCTGAAATTACAGGTGTGCCACCATGCCAGGGTAATTTTTGTAT
                                                                                                                                                                                                                                             33289 TITITAGIGGAGACGGGGTITCACCAIGGIGGCCAGGCIGAICTCGAACTCCIGACCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18570 TCAAGGCGGCCAGATCACCTGAGGGCAGGAGTTCGAGACCAGCCTGGCCAATATGGTGAA
                                                                                                                3457 IGIGIATACTGGTAATAAATCTAGTTTGCTGCCTAAAGTTTAAAGTGCTTTCCAATAAGC
                                                                                                                                                 33349 AGTG-ATCCACCTGTTGGCCTTCCAAAGTGCTGGAATTACAGGTGTTGGCCACTGCGC
                                                                                                                                                                                  3517 TT--CATGTACGTGAGGGAGACATTTAAAGTGAAACAGACAG-CCAGGTGTGGTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                  3688 CGGCCATGTGCCATGTGCCTGTGGTCCCAGCTAGTAGGG-GGCTGAGGCAGGAGAATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  3747 ITGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCCAGCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3542 AAAGTGAAACAGACAGCCAGGTGTGGTGGCTCACGCCTGTAATCCCAGCACTCTGGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3602 CTGAGGTGGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAAA
                                                TTAGATTAAAATATGCATTTTAAAATTTTAAAATAATATGGCTAATTTTTACCTTATGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 3, Application US/09754250
Patent No. 6376225
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: ISOLATED HUMAN PHOSPHODIESTERASE
TITLE OF INVENTION: PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUM
TITLE OF INVENTION: PROSPHODIESTERASE PROTEINS, AND USES THEREOF
FILE REFERENCE: CLO01063
CURRENT APPLICATION NUMBER: US/09/754,250
CURRENT PILING DATE: 2001-01-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 4; Length 111282;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 190.2; DB 4;
Pred. No. 1.7e-30;
0; Mismatches 83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; NAME/KEY: misc_feature
; LCCATION: (1)...(111282)
; OTHER INFORMATION: n = A,T,C or G
US-09-754-250-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 3.4%;
Best Local Similarity 74.8%;
Matches 267; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 3
LENGTH: 111282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
US-09-754-250-3/c
                                                                                                                                                                                                                                                                                                                3634
                                              3397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
               엄
                                              ð
                                                                               g
                                                                                                              ö
                                                                                                                                              g
                                                                                                                                                                                ò
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
```

```
Search completed: June 19, 2003, 11:14:04 Job time: 239.577 secs
                                                3874 AAAGA 3878
| | | | |
88438 ACAGA 88434
             S G
                              oy
o
                                              9
9
      g
```

	•			
	•			
			•	
		•		
				•
				•
				-

```
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
```

OM nucleic - nucleic search, using sw model

June 19, 2003, 00:06:39 ; Search time 739.811 Seconds Run on:

(without alignments)
10937.110 Million cell updates/sec

US-09-966-880A-9 5514 1 acagacgaatacatggtcca......tcaaactcctgacctcagag 5514 Title: . Perfect score: Sequence:

IDENTITY\_NUC Gapop 10.0 , Gapext 1.0 Scoring table:

1042519 seqs, 733713590 residues Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

1: /cgn2\_6/ptodata/1/pubpna/US07\_PUBCOMB.seq:\*
2: /cgn2\_6/ptodata/1/pubpna/PCT\_NEW\_PUB.seq:\*
3: /cgn2\_6/ptodata/1/pubpna/US06\_NEW\_PUB.seq:\*
4: /cgn2\_6/ptodata/1/pubpna/US06\_NEW\_PUB.seq:\*
5: /cgn2\_6/ptodata/1/pubpna/US07\_NEW\_PUB.seq:\*
6: /cgn2\_6/ptodata/1/pubpna/US07\_NEW\_PUB.seq:\*
7: /cgn2\_6/ptodata/1/pubpna/US08\_NEW\_PUB.seq:\*
8: /cgn2\_6/ptodata/1/pubpna/US08\_NEW\_PUB.seq:\*
9: /cgn2\_6/ptodata/1/pubpna/US08\_NEW\_PUB.seq:\*
10: /cgn2\_6/ptodata/1/pubpna/US08\_NEW\_PUB.seq:\* /cgn2\_6/ptodata/1/pubpna/US10\_NEW\_PUB.seq:\*/cgn2\_6/ptodata/1/pubpna/US10\_PUBCOMB.seq:\*/cgn2\_6/ptodata/1/pubpna/US60\_NEW\_PUB.seq:\*/cgn2\_6/ptodata/1/pubpna/US60\_PUBCOMB.seq:\*/cgn2\_6/ptodata/1/pubpna/US60\_PUBCOMB.seq:\* Published\_Applications\_NA:\* . : []

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

		æ				
Result No.	t , Score	Query Match	Length DB	DB	ID	Description
:	1 5512.8	100.0	5514	6	0S-09-966-880A-9	Sequence 9. Appli
	2 4922.8	89.3	11204	σ	US-09-966-880A-35	Sequence 35, Appl
O	3 230.2	4.2	28818	10	US-09-764-877-2266	Sequence 2266, Ap
O	4 226.8	4.1	32204	Φ	US-09-764-872-517	Sequence 517, App
	5 226.8	4.1	32204	6	US-10-072-349-327	
	6 226.8	4.1	32204	10	US-09-764-855-327	7,
	7 225.4	4.1	28588	σ	US-10-073-961-399	. ~
	8 225.4	4.1	28588	10	US-09-764-887-399	Sequence 399, App
	9 221.6	4.0	10855	Φ	US-09-764-891-7965	
o 1	.0 221.2	4.0	32152	σ	US-09-764-872-518	Sequence 518, App
-	.1 221.2	4.0	32152	6	US-10-072-349-328	
-	2 221.2	4.0	32152	10	US-09-764-855-328	
c 1	.3 218.8	4.0	32134	σ	US-09-764-891-6763	
o 1	.4 218.6	4.0	4421	σ	US-10-216-373-6	Sequence 6, Appli
0	.5 215	3.9	19472	10	US-09-764-864-1698	Sequence 1698, Ap
c 1	6 214.4	3.9	17239	σ	US-10-091-504-2326	Sequence 2326, Ap
o	.7 214.4	3.9	17239	10	US-09-764-869-2326	Sequence 2326, Ap
7	.8 213.6	3.9	32195	6	US-10-091-504-1605	Sequence 1605, Ap
-	9 213.6	3.9	32195	ტ	US-10-125-540-611	Sequence 611, App

Sequence 617, App Sequence 611, App Sequence 611, App Sequence 611, App Sequence 661, App Sequence 661, App Sequence 7092, Ap Sequence 611, App Sequence 611, App Sequence 611, App Sequence 611, App Sequence 611, App Sequence 661, App Sequence 661, App Sequence 661, App Sequence 661, App Sequence 611, App Sequence 611, App Sequence 611, App Sequence 611, App Sequence 7213, Ap Sequence 7213, Ap Sequence 7213, Ap Sequence 7213, Ap Sequence 7213, Ap Sequence 7213, Ap Sequence 7213, Ap	
US-10-125-540-617 US-09-764-870-611 US-09-764-869-1605 US-09-764-869-1605 US-10-074-095-661 US-09-764-860-661 US-09-764-891-7095 US-10-091-540-611 US-10-091-540-611 US-10-125-540-611 US-09-764-891-7095 US-09-764-870-611 US-09-764-870-611 US-09-764-860-661 US-09-764-860-661 US-09-764-860-611 US-09-764-860-611 US-09-764-860-611 US-09-764-811-8605 US-09-764-891-8605 US-09-764-891-777 US-09-764-891-777	
100 100 100 100 100 100 100 100 100 100	
32195 32195 32195 32195 32195 24132 666132 32195 32195 32195 32195 32195 32195 32195 32195 32195 32165 7233 7233 7233 7233 7233	
22 22 22 22 22 22 22 22 22 22 22 22 22	
010202020202020202020202020202020202020	
000 000000 00 00	

## ALIGNMENTS

```
Sequence 9, Application US/09966880A
Fatent No. US20020164743A1
GRUERAL INFORMATION:
APPLICANT: Honjo, Tasuku
APPLICANT: Muramatsu, Masamichi
TITLE OF INVENTION: NOVEL CYTIDINE DEAMINASE
FILE FEFRENCE: 06501-088001
CURRENT APPLICATION NUMBER: US/09/966,880A
CURRENT FILING DATE: 2001-09-28
PRIOR FILING DATE: 2000-09-28
PRIOR FILING DATE: 1999-12-27
PRIOR FILING DATE: 1999-12-27
PRIOR FILING DATE: 1999-03-29
PRIOR FILING DATE: 1999-03-29
PRIOR APPLICATION NUMBER: UP 11-178999
PRIOR FILING DATE: 1999-03-29
PRIOR APPLICATION NUMBER: UP 11-17899
PRIOR APPLICATION NUMBER: JP 11-87192
PRIOR APPLICATION NUMBER: JP 11-87192
SPROR PRIOR FILING DATE: 1999-03-29
NUMBER OF SEQ ID NOS: 36
SOFTWARE: FastSED for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; NAME/KEY: intron
; LOCATION: (1119)...(5514)
US-09-966-880A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: exon
LOCATION: (1032)...(1118)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCATION: (1)...(1031)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE: NAME/KEY: intron
US-09-966-880A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
```

9 1 ACAGACGAATACATGGTCCAAGCTAGGGCTATTGATTGAAAATCATCAAGGTATAGATG

ò

ö

ö

0; Indels DB 9;

Query Match 100.0%; Score 5512.8; Best Local Similarity 100.0%; Pred. No. 0; Matches 5514; Conservative 0; Mismatches

Length 5514;

us-09-966-880a-9.rnpb

1141 GGTGATTGCACTGGCCTTCCTCAGAGCAAATCTGAGTAATGAGACTGGTAGCTATCCC 1200	1321 TTCAGACTTCTCTTGATTTCCTCTTTTTCATGTGGCAAAGAAGTAGTGCGTACAATGT 1380	1441 TAGCAAATCTTAGAGACTCAAATCATGAAAAGGTAATAGCAGTACTGTACTAAAAACGG 1500	1561   CTTTCCTAGGGGGGGTTACTGAAATAATTTAGCTATAGTAAGAAAATTTGTAATTTTAG   1620	1681 AGACAAATTCATTCAAGCAAGTTATTAATGTTAAAGCCCCAATTGTTAGGCAGTTAATG 1740 1681 AGACAAATTCATTCAAGCAAGTTATTAATGTTAAAGGCCCAATTGTTAGGCAGTTAATG 1740 1741 GCACTTTACTATTAATGTTTACTTTCATTCATAAGGCCCAATTGTTAAGGCAGTTAATG 1740 1741 GCACTTTAACTATTAACTAATCTTTCCATTTGTTCAGACGTAGCTTAACTTACCTCTTAG 1800 1741 GCACTTTTACTATTAACTAATCTTTCCATTTGTTCAGACGTAGCTTAACTTACCTCTTAG 1800	ATTTGGTTAAGGTCCTCATAATGTCTTTATGTGCAGTTTTTGATAGGTTATTGT 186 [	1921 ATCCTTATACTTTACCTCAATTTAACTCCTTTATAAAGAACTTACATTACAGAATAAAGA 1980 [1921 ATCCTTATACTTTACCTCAATTTAACTCCTTTATAAAGAACTTACATTACAGAATAAAGA 1980 [1921 ATCCTTATACTTTACCTCAATTTAACTCCTTTATAAAGAACTTACATTACAGAATAAAGA 1980 [1981 TTTTTAAAAAATATTTTTTTTAAGAGACAGGGTCTTAGCCCAGCGCGAGGCTGTCT 2040 [11111111111111111111111111111111111	2041 AAGTCCTGGCCCAAGGGATCCTCGCCTGGCCTCCTAAAGTGCTGGAATTATAGACAT 2100 1111111111111111111111111111111111
60 O O O O O O O O O O O O O O O O O O O	da Oy Oy	da	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	oy oy oy	Oy Oy Dp	0y 0y 0b	6 6 6 6 6
DD   1 ACAGACGAATACATGGTCCAAGCTATGATTTGAAAATCATCAAGGTATAGATG 60	241 TATGAGAGCACAAATTAAAGTCTTTATTTGAGAGTCTTAGCCGTTTTCCAAATTCGG 30  141111111111111111111111111111111111	361 TGCTGCTGCTTCTGCTAATTAAGGATTTTTTTTTTTTTT	421 CANAAAAAATCCATGGGGGGGGGAAATTTTGTGTGTTCTATATZ 481 AAGAAAAAATCCATGGTTTGGGAGGCAAATTTTTGTGTTCTAAATTCTATATZ 481 AAGAAAAAAAACCATGGTTTGGGAGGCAAAATTTTTGTGTTCTAAATTCTATATZ 541 GTTCATTTGCTTAACTGCAAAGCAGGACTGCTAGTGCTTGTATATATA	601 AGACTGTGGGAATATGGGGGAATTAGAGGCTATCTGAGGCTCTTCAACACAATAACCCAA 66 114111111111111111111111111111111111	721 TATTTGTGTTATCATGATTATAATTGAAGTGTCTACTGTTACTGCCTCCTGATCTTTGC 78	CCACC 90 CCACC 90 CCACC 90 ATGCT 96	961 GTCAGGGGAGCCCAAAAGGCAAAGTTTGAATTTGAATGTGAAGGCCAATGCACGT 10 11111111111111111111111111111111111

	TGGTGGCTCACGCTGTAATCCCAGCACTC		TGATATTTGGTATTTAACTTTTAAAGTCAGGGTCTGTGTCACCT TATCAATTTTGGTATTTAACTTTTAAAGTCAGGGTCTGTGTCACCT IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	41 AGGAGATAATGTATGCGAAATTCTAGAAAATGAAAGGAGGGGGGGG
90 60 60 60	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	9 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	6 6 6 6 6 6 6	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
2221 AACAAGTCTGAGCTCTTGTGAGGGTCCATTGGAAATACTTGTTCAAAGTAAA 228 11111111111111111111111111111111111	GCTCATTAGTGATGGCAAAATGACTTGGTCAGGATTATTTTAACCCGGTTGTTTCTGGT 246  TTGCACGGCTGGGGATGCAGCGTTCTGCCTCAGGGAGCACAGCTGTTTCTGGT 246  TTGCACGGCTGGGGATGCAGCTAGGGTTCTGCCTCAGGGAGCACAGCTGTCCAGAGCAGC  TGTCAGCCTGCAAGCCTGAAACACTTCTGCCTCAGGGAGCACAGCTCCCAGGAGAAT 258  TGTCAGCCTGCAAGCCTGAAACACTCCCTCGGTAAAGTCCTTCCT	UN 2641 ANGITANCINGCAGGICAGATICATITION CTGATIGGIPACATOTGACA 2700  1	TANGGCTCTCTCTCTCTCCACACACACACACACACACACACAC	0y         3061 AGCACCTATTATGTGTTGAGCTTATATATACAAAGGGTTATTATATGCTAATATGTAAT 3120           111111111111111111111111111111111111

4

4381

셤 ò a ò Q ò g

9 0 0 δ QQ δ g ογ q δ g

```
SEQ ID NO 35
                                                                                                                                                                                    TYPE: DNA
                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                            771
                                                                                                                                                                                                                                                                                                                                                                                                                                         1011
                                                                                                                                                                                                                                                                                                 711
                                                                                                                                                                                                                                                                                                                                                        831
                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                              951
                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                   891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1131
                                                                                                                                                                                                                                                                                  д
                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                       QQ
                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                             οq
                                                                                                                                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQ
                   4500
                                         4860
                                                                                                                                                                                                                                                                                                     5100
                                                                                                                                                                                                                      5100
                                                                                                                                                                                                                                                                                                                                 5160
                                                                                                                                                                                                                                                                                                                                                                          5220
                                                                                                                                                                                                                                                                                                                                                                                                                                               5400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGGTAGATGGGATTACAGGCGCCCACCACCACCACTCGGCTAATGTTTGTATTTTTAGTA 5460
TCTCCACAAAAATGGGAAAAAAAAAGCAAATCAGTGGTTGTCCTGTGGGGGGGAAG
             AAAAGITTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTGAGCCCTTTACTTCGCA
                                                                                                                            AATTCTCTGCACTTCTGCCCCGTACCATTAGGTGACAGCACTAGCTCCACAAATTGGATA
                                                                                                                                                                                   CCACGCTGTACAGCTTGTGTTGCTGTCTGCAGCTGCAATGGGGACTCTTGATTTCTTTAA
                                                                                                                                                                                           AATGCATTTCTGGAAAAGACTAGGGACAAAATCCAGGCATCACTTGTGCTTTCATATCAA
                                                                                                                                                               GGAAACTTGGGTTACCAGAGTATTTCCACAAATGCTATTCAAATTAGTGCTTATGATATG
                                                                                                                                                                                                                                                 ACAACATAGCAAGATATTTAGATCATTTTGACTAGTTAAAAAAGCAGCAGAGTACAAAAT
                                                                                                                                                                                                                                                                             CAAGACACTGTGCTAGGAGCCAGAAAACAAAGAGGAGGAGAAATCAGTCATTATGTGGGA
                                                                                                                                                                                                                                                                                                 CACACATGCAATCAGTATAATCCAAAATCATGTAAATATGTGCCTGTAGAAAGACTAGAGG
                                                                                                                                                                                                                                                                                                        AATAAACACAAGAATCTTAACAGTCATTGTCATTAGACACTAAGTCTAATTATTATTATT
                                                                                                                                                                                                                                                                                                                                  AGACACTATGATATTTGAGATTTAAAAAATCTTTAATATTTTAAAATTTAGAGCTCTTCT
                                                                                                                                                                                                                                                                                                                                                               AYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                 4501
                                                       4501
                                                                     4561
                                                                                  4561
                                                                                                               4621
                                                                                                                            4681
                                                                                                                                                       4741
                                                                                                                                                                    4741
                                                                                                4621
                                                                                                                                          4681
                                                                                                                                                                                   4801
                                                                                                                                                                                                                                                                                                5041
                                                                                                                                                                                                 4801
                                                                                                                                                                                                               4861
                                                                                                                                                                                                                            4861
                                                                                                                                                                                                                                          4921
                                                                                                                                                                                                                                                       4921
                                                                                                                                                                                                                                                                     4981
                                                                                                                                                                                                                                                                                  4981
                                                                                                                                                                                                                                                                                                              5041
                                                                                                                                                                                                                                                                                                                                         5101
                                                                                                                                                                                                                                                                                                                                                                    5161
                                                                                                                                                                                                                                                                                                                            5101
                                                                                                                                                                                                                                                                                                                                                       5161
                                                                                                                                                                                                                                                                                                                                                                                                 5221
                                                                                                                                                                                                                                                                                                                                                                                                                            5281
                                                                                                                                                                                                                                                                                                                                                                                                                                          5341
                                                                                                                                                                                                                                                                                                                                                                                                                                                        5341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5401
                                                                                                                                                                                                                                                                                                                                                                                   5221
                                                                                                                                                                                                                                                                                                                                                                                                              5281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5461
```

g ò

9. 9. ò Op ò a

g ò

ò 셤 ò g δ a

g à

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   591 AGGTTCAGAGAGTGTGGGGAATATGGGGGGAATTAGAGGCTATCTGAGGCTCTTCAACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCACCCACCCATCTTCACTGGATCCAAATCAGGAGCAAGGCCGTTGGGGTACCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   651 AATAACCCAAGAAGCTATTTAAATGCTCTTTAAGGTATTTACATAATATTACTATTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTGTGCTTTTATTTTGTGTTATCATGATTATAATTGAAGTGTCTACTGTTACTGCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGATCTTTGCTAGCTATGGAGCATGGACTGGGCTTTTAGAGCAGCAGCCCCAAAGGAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TAAACATTAAAAGCAGGGGGCCCCCCAAATGGTTTAACCTGTGTGACTCTGCCTATGACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATGCACTGTCAGACTGAGACCAGAGAACCATCATTAATTGAAGTGAGATTTTTCTGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGACTTGCAGGGAGGCAAGAAGACACTCTGGACACCACTATGGACAGGTAAAGAGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                               Length 11204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                            DB 9;
Sequence 35, Application US/09966880A
Sequence 35, Application US/09966880A
Setent No. US2002016474341
SEBERAL INFORMATION:
APPLICANT: Muramatsu, Masamichi
TITLEOF INVENTION: NOVEL CYTIDINE DEAMINASE
FILE REFERENCE: 06501-088001
CURRENT APPLICATION NUMBER: US/09/966,880A
CURRENT FILING DATE: 2001-09-28
PRIOR FILING DATE: 2000-03-28
PRIOR FILING DATE: 1999-12-27
PRIOR APPLICATION NUMBER: JP 11-371382
PRIOR FILING DATE: 1999-06-24
PRIOR FILING DATE: 1999-06-24
PRIOR FILING DATE: 1999-06-24
PRIOR FILING DATE: 1999-06-34
PRIOR FILING DATE: 1999-06-34
PRIOR FILING DATE: 1999-03-29
NUMBER OF SEQ ID NOS: 36
SOFWARE: FEASLSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                        Score 4922.8;
Pred. No. 0;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                        89.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 99.9
Matches 4921; Conservative
                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                       LENGTH: 11204
                                                                                                                                                                                                                                                                                                                                                                                    US-09-966-880A-35
```

276  GTGTTGGGATACAGTCATCAGCCACTCGGCTGGCTAGGATCCATTTGGTAGTTAGGTTAGATTA	2820	47	1 1066	0Y 4551 ATCCATCTTAAATGGGTGGAGTT" 5530	3590 4611 AATGTGTAAGAAAGTTTGAATT 	65	060 Qy 4731 AAATTGGATAAATGCA	Db 4141	3770 QY 4791 TTCATATCAACGCTGTACAGG 1111111111111111111111111111111111	, w	240 22 4211 Qy 4911	100 Db 4321 TTATGATATGCAAGACACTG	95	, 0 4	07	13	. 6 0	250 Oy 5271 TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	) H	1 L a	, ω <	* 0 0
	GTGTTGGGATACAGTCATGAGCCACTGCATCTGGCCTAGGATCCATTTAGATTAAAATAT	GCATTITAAATTITAAAATAATATGGCTAATTITACCTTATGTAATGTGTATACTGGTA	GCATTTTAAATTTTAAAATAATATGGCTAATTTTTACCTTATGTAATGTGTATACTGGTA	ATAAATCTAGTTTGCTGCCTAAAGTTTAAAGTGCTTTCCAATAAGCTTCATGTAC 	GGGAGACATTTAAAGTGAAACAGACAGCCAGGTGTGGTGGCTCACGCCTGTAATCCCAGC	ACTCTGGGAGGCTGAGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGGAGTTCAAGACCAGCCTGAGCCTTGAAGATCAAGACCAGCCTTGAGTTCAAGACCAGCCTTGAGTTCAAGACCAGCCTTGAGTTCAAGACCAGCCTTGAGTTCAAGACCAGCCTTGAGTTTAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAA	AACATGGCAAAACCCTGTTTCTATAACAAAATTAGCCGGGGATGGTGGCATGTCTTCTT		GGTCCCAGCTACTAGGGGGCTGAGGCAGGAGAATCTTTGGAGCCCAGGAGGTCAAGGCTG 	CACTGAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAGGACCAGACCTTGCCTC	CACTGAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAGGACCAGACCTTGCCTC AAAAAAATAAGAAAAAAAAAA		GATGAGCTACTTAGTTAGGCTGATATTTTGGTATTTAACTTTTAAAGTCAGGGTCTGTCA	CCTGCACTACATTATTAAAATATCAATTCTCAATGTATATCCACACACA	GAATGTTCATAGTACCTTTATTCACAAAACCCCAAAGTAGAGACTATCCAAATATCCATC 4	AACAAGTGAACAAATAACAAAATGTGCTATATCCATGCAATGGAATACCACCTGCAGT 4	ACAAAGGAAGAAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAAATGAAAGTCA 4	GACATGAAGGAGGAGATAATGTATGCCATACGAAATTCTAGAAAATGAAGTAACTATA 4 	GTTACAGAAAGCAAATCAGGCAGGCATAGAGCTCACACCTGTAATCCCAGCACTTGA 4	GAGGCCACGTGGGAAGATTGCTAGAACTCAGAGTTCAAGACCAGCCTGGGCAACAGT 	GAAACTCCATTCTCCACAAAAATGGGAAAAAAGAAAGCAAATCAGTGGTTGTCCTGTGG 4	GGAGGGGAAGGACTGCAAAGAGGAAGAAGTCTGGTGGGGTGAGGGTGGTGATTCAGGT 4

GCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGC 5390 ACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTC 5510 AGTTTGGGGTGTTTACATCCAAAAATATTCGTAGAATT TCTCTTGCCAGCAAAGGTATTCAAATTCCTGAGCCT GCTTGTGTTGCTGTCTGCAGCTGCAATGGGGACTCTTG TTCTGCCCCGTACCATTAGGTGACAGCACTAGCTCCAC CTAGGAGCCAGAAACAAAGAGGAGGAGAAATCAGTCA GAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTG ATTCAAGTTTGACAATGATCAAGTATTACTCTTTCTT 

```
19145
                                                                                                                                                                                                                   4252
                                                         4012
                                                                                                                                                                             4192
                                                                                                                                                                                                                                                          4312
                                                                                                                                                                                                                                                                                                4371
                                                                                                                                                                                                                                                                                                                                      4431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4899
                                                                                                                                                                                                                                                                                                                                                                             4488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4959
                                                                         Op
                                                                                                                                 δ
                                                                                                                                                     qq
                                                                                                                                                                           ολ
                                                                                                                                                                                          g
                                                                                                                                                                                                               δy
                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                               δy
                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                     οχ
                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           óλ
 g
                  QY
                                   Op
                                                      ò
                                                                                               δ
                                                                                                               g
                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                   3326
                                                                                                                                                                                                                                                                                                                                                                                                       19903 CCCAAGTGCTGGGATTACAGGTGTGTGCAACCGCACCCAGCCTACAGATGATATTATAT 19844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAATAAATAAACGC----TTCAAATCATAGATAAAATTAAAAGAAAAATTAAAATTCTGGA 19428
                                                                                                                                                                                                                             3267
                                                                                                                                                                                                                                               TTAATTATTTATTATTTATTCTTATTTTTTTTTGAGACAGAGTCTCGCTCTGTTGCCCAA 20084
                                                                                                                                                                                                                                                                                                                                                                                      3487
                                                                                                                                                                                                                                                                                                                                                                                                                                             3712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3771
                                                                                                                                                                                                          15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAGCTACTTAGTTAGGCTGATATTTTGGTATTTAAACTTTTAAAGTCAGGGTCTGTCAC 3951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTGGA-GTGCAGTGCTGCAATCATAGCTTTCTGCAGTCTTGAACTCCTGGGCTCAAGCA
                                                                                                                                                                                                                                                                              ATCCTCCTGCCTTGGCCTCCCAAAGTGTTGGGATACAGTCATGAGCCACTGCATCTGGCC
                                                                                                                                                                                                                                                                                                                   --GGATCCATTTAGATTAAAATATGCATTTTAAATTTTAAA
                                                                                                                                                                                                                                                                                                                                                                                     ATAATATGGCTAATTTTTACCTTATGTAATGTGTATACTGGTAATAAATCTAGTTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                          CCTAAAGTTTAAAGTGCTTTCCAATAAGCTTCATGTACGTGAGGGGAGACATTTAAAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGCTGAGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAAACCCTGTTTCT----ATAACAAAATTAGCCGGGCATGGTGGCATGTGCCTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCCAGCTACTAGGG-GGCTGAGGCAGGAGATCTTTGGAGCCCAGGAGGTCAAGGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAAAATAAGAAGAAAAATTAAAAATAAATGGAAACAACTACAAAGAGCTGTTGTCCTAG
                                                                                                                                                                                                                            TTCATTTTATGTTTTTATGTTTTTGATTTTTTAAAAGACAATCTCACCTGTTACCCAG
                                                                                                                                                                                                                                                                                                                                                                  19963 AATTTTTTGTATTTTTAGTAGAGGGGGGTTTCACCATGTTAGCCAGGTGCCTTGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAACAGACA------GCCAGGTGTGGGGGCTCACGCCTGTAATCCCAGCACTCTGGG
                                                                                                                                                                                      Length 28818
                                                                                                                                                                                                          125;
                                                                                                 wrapper
                                                          and Antibodies
                                                                                                                                                                                                       1; Mismatches 1104; Indels
                                                                                                                                                                                     DB 10;
                                                                                                 ö
                                                                                                                                                                                    Score 230.2; DB Pred. No. 1.1e-37;
                                   GENERAL INFORMATION:

APPLICANT: Rosen et al.

TITLE OF INVENTION: Nucleic Acids, Proteins, and
FILE REFERENCE: PC005

CURRENT APPLICATION NUMBER: US/09/764,877

CURRENT FILING DATE: 2001-01-17

Prior application data removed - refer to PALM (8)

NUMBER OF SEQ ID NOS: 4031

SOFTWARE: PATENTIN VET. 2.0

SEQ ID NO 2266
                                                                                                 PALM
                  Sequence 2266, Application US/09764877
Patent No. US20020147140A1
                                                                                                                                                                                     4.28;
                                                                                                                                                                                               Best Local Similarity 48.7
Matches 1167; Conservative
                                                                                                                                              ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-764-877-2266
RESULT 3
US-09-764-877-2266/c
                                                                                                                                      28818
                                                                                                                                                                                                                           3208
                                                                                                                                                                                                                                                                                                        3327
                                                                                                                                                                                                                                                                                                                           20023
                                                                                                                                                                                                                                                                                                                                              3387
                                                                                                                                                                                                                                                                                                                                                                                    3428
                                                                                                                                                                                                                                                                                                                                                                                                                          3488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                3548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3892
                                                                                                                                                                                                                                               20143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19663
                                                                                                                                                                                                                                                                  3268
                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                              οQ
                                                                                                                                                                                                                                                                                                                                                                             o
O
                                                                                                                                                                                                                                                                                                                                                                                                                     ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

```
19035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18734 TTAGACTTTTTGCCACTGTGTCTATATTACTTTGAGAATTAGAAGAAAAAAAGCATTTTT 18675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18674 TCAATTTGGAAAATTGTATAAGCCCTTTTAACAGAGTAATTACACTTGTAGACATTTTTC 18615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18554 AATTGAAATCACAAAAATCTAATACTGGGAATTGGTTACATAAATATGCCACATTCATAT 18495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGGACTCTTGATTTCTTTAAGGAAACT-TGGGTTACCAGAGTATTTCCACAAATGCTAT 4898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTTAGATCATTTTGACTAGTTA 5018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19265 AGGAGTACAAATTGAAATGAGACCCTTTTCTGTCTAGAAATTTAATAATGGAATAATCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18974 AAAACCGTGTCTCTACTAAAATACAAAATTAGCTGGGCCTGGTGGCACACACCTGTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4548 ATTATGCATCTTAAATGGGTGGAGTTTACTGTATGTAAATTATACCTCAATGTAAGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18614 CTAAAGAAATAATCAGAGATTGCATAAAGATACATTATATAAGAATCGTAATACCAAAAA
                                                                                                                                                                                     19367 ATACCAATAATAAGGAAGATGTGAACACAGCAAAAATATCAAAGGACATA----AATAG
                                                                                                                                                                                                                                                                                                                                       19312 AAAATTCATGAGAGTGGTAAAAAAAATTCAA-------ACTCACTAATAATCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19205 GAATTGGGGATATAAGGAAGTAAACACTCATATACTGATCATGGGAATATAAAGTGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACATGAAGGAGGAGATAATGTATGCCATACGAAATTCTAGAAAATGAAAGTAACTTATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | TTACAGAAAGCAAATCAGGGCAGGCATAGAGGCTCACACCTGTAATCCCAGCACTTTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19094 TICTAAAGAAAAACCIAGGCIGGGIGCGAIGGCICACACCIGIAAICCCAGCACTIIGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18914 TICCAGCTACTIGGGAGGCTGAGCCAGGAGATIGCTAGAACCCAGGAGTIGGAGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18854 AATGAGCTGAGATCACCACCTGCACTCCAGCTTAGGTGACAGGGAGTCTCAGTCTCGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4608 AATAATGTGTAAGAAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GATGGAAAAGTATGCAGCTACTAAAATTATGACATGCAAGAATATTGACATGGAAAAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCAAATTAGTGCTTATGATATGCAAGACACTGTGCTAGGAGCCAGAAAACAAAGAGGAGG
                                                                                                                                                                                                                                                            AATGTTCATAGTACCTTTATTCACAAAACCCCCAAAGTAGAGACTATCCAAATATCCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                     4072 ACAAGTGAACAAATAAACAAAATGTGCTATATCCATGCAATGGAATACCACCCTGCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4132 CAAAGGAAGAAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAAATGAAAGAGTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGCCACGTGG-GAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCTGGGCAACACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAACTCCATTCTCCACAAAAATGGGAAAAAAAAAAAAGCAAAATCAGTGGTTGTCCTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTTCTGTATCCTGACTGTGGTAGCAGTTTGGGGGTGTTTACATCCAAAAATATTCGTAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTTTACTTCGCAAATTCTCTGCACTTCTGCCCCGTACCATTAGGTGACAGCACTAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACAAATTGGATAAATGCATTTCTGGAAAAGACTAGGGACAAAA------TCCAGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCACTTGTGCTTTCATATCAACCACGCTGTACAGCTTGTGTTGCTGTCTGCAGCTGCAAT
```

œ

```
q
                                                    O.Y
Db
                                                                                     οy
                                                                                                           Ω
                                                                                                                                  Ω
                                                                                                                                                 QQ
                                                                                                                                                                       οy
                                                                                                                                                                                          g
                                                                                                                                                                                                              ò
                                                                                                                                                                                                                              Ωp
                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                               Ob
                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                 òγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
18374 AGAATATTCAGATGACCGTGTATATGTGTGTGCATATGTGTGCAAGACATATACCAGTTA 18315
                                                                                                                                               GTGCCTGTAGAAAGACTAGAGGAATAAACACAAGAATCTTAACAGTCATTGTCATTAGAC 5138
                                                                                                                                                                                                                                                         GGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCA 5394
                                                                                                                                                                                                                                                                                               GCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACTCGGCTAATGTTTGTATTT 5454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3661
                                                                                                                                                                                                                                                                                                                                    5019 AAAAAGCAGCAGAGTACAAAATCACACATGCAATCAGTATAATCCAAATCATGTAAATAT
                                                                            18254 -TCCAAGITITCTIAAAAAGCCIGIAITCTITITACAITIGGGGGICAAGGCITGITITI
                                     .8314 TCTTTACATAGTGGGTTATGGGTAATATAAATGTTTATTCTTTGGGCTCTTCTATCTTT
                                                                                                ACTAAGTCTAATTATTATTAGACACTATGATATTTGAGATTTAAAAAATCTTTAATA
                                                                                                                                      TITIAAAAITTAGAGCTCTTCTATTTTTCCATAGTATTCAAGTTTGACA------
                                                                                                                                                                                                                  TITITITITITITITITIGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAAT
                                                                                                                                                                              --------ATGATCAAGTATTACTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAGTGAAACAGACAGCCAGGTGTGGTGGCTCACGCCTGTAATCCCAGCACTCTGGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGAGGTGGGTGGGTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCATGGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCCTGTTTCT-----ATAACAAAATTAGCCGGGCATGGTGGCATGTGCCTGTGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 32204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     file wrapper
                                                                                                                                                                                                                                                                                                                                                                                                                                               Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4.1%; Score 220.0.
48.8%; Pred. No. 5.8e-37;
+ive 0; Mismatches 967; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      or
                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Rosen et al.
TILLE OF INVENTION: Nucleic Acids, Proteins, al
FILE REFERENCE: PA125
CURRENT APPLICATION NUMBER: US/09/764,872
CURRENT FILING DATE: 2001-01.17
Prior application data removed - consult PALM (NUMBER OF SEQ ID NOS: 957
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 517, Application US/09764872 Publication No. US20030050231A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Homo sapiens
US-09-764-872-517
                                                                                                                                                                             ------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 976; Conserv
                                                                                                                                                                                                                                                                                                                                                                                  RESULT 4
US-09-764-872-517/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32204
                                                         5079
                                                                                                                                       5199
                                                                                                 5139
                                                                                                                                                                             5248
                                                                                                                                                                                                                                                         5335
                                                                                                                                                                                                                                                                                               5395
                                                                                                                                                                                                                                     18015
                                                                                                                                                                                                                                                                            17955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18793
                   ò
                                    d
                                                       ò
                                                                          g
                                                                                                           Q
                                                                                               ò
                                                                                                                                 S G
                                                                                                                                                                       ò
                                                                                                                                                                                           g
                                                                                                                                                                                                                à
                                                                                                                                                                                                                               QQ
                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
```

```
8433 TGTAATACAGCACTATGGAAGGCTGAGGCAGGAGTTGCTTAAGCCCTAGAGTTCAAGA 18374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCTACT - AGGGGGCTGAGGCAGGAGAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACT 3774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17653 AGCCCGGGAAGTTGAGGCTGCAGTGAGCTGTGATCGCACCATTGCACTACAGCCTGGGTG 17594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17593 ACAGAGCAAGACTCCGTCTTAAAAAAAATTATTTTTTTAGGGATATGTGATCACAGC 17534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4713 TGACAGCACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGACTAGGGACAAAAT 4772
                         3835 AAATAAGAAGAAAATTAAAAATAAATGGAAACAACTACAAAGAGCTGTTGTCCTAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18313 AAATGCAGTTTCTCAGTTTGCTGTGCTGGTTCTATGTGGTCACTGTCTTCAGAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .8133 ACGGTGGCTCACACCTGTAATTCCGGTACTTTGGGAGAACATGGCAAAACCCTGTCTTA
                                                                                                                                                                                                                                                                  ACAAAAAACAAACAAACAAAAAAAAATACAGATGGCCAGGCCAGGCATGGTGGCTCACACC
                                                                                                                                                                                                                                                                                                                     3895 AGCTACTTAGTTAGGCTGA----TATTTTGGTATTTAACTTTTAAAGTCAGGGTCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCTGCACTACATTATAAAATATCAATTCTCAAATGTATATCCACACAAAGACTGGTACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4010 TGAATGTTCATAGTACCTTTATTCACAAAACCCCAAAGTAGAGACTATCCAAATATCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18373 CCAGACTGGGCAATGTAGTGAGACCCCCCCATCTCTACAGGAAACAATAAAATACAATAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4070 CAACAAGTGAACAAATAAACAAAATGTGCTATATCCATGCAATGGAATACCACCCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4130 TACAAAGGAAGAAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAAATGAAAGAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18193 AGGCCAGAACTCCAGGTATTTTTAATTTTTTAAATTTAAAATTATACAGGGCCAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4190 AGACATGAAGGAGAGATAATGTATGCCATACGAAATTCTAGAAAATGAAAGTAACTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4310 AGAGGCCACGT-GGGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCTGGGCAACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGAAACTCCATTCTCCACAAAAATGGGAAAAAAAAAGCAAATCAGTGGTTGTCCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----GGGGAGGGAAGGACTGCAAAGAGGGAAGAAGCTCTGGTGGGGTGAGGGTGGTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17893 AATCCCAGCTACTAAGGAGGCTGAGGCAAGAGAATTGCTTGAACCTGGGAAGCGGTGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4485 TCAGGTTCTGTATCCTGACTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAAATATTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17833 GCAGTAAGTCAAGATTGTGCCATTGCAATCCAGCCTGGGTGACAGCAAGACTCCGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4605 AAAAATAATGTAAGAAAAGTTTCAATTCTTGCCAGCAAACGTTATTCAAATTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17113 TGTGTTGGTGCTCACCTGTAGTCCCAGTTACTCAGGAGGCTGAGGTGGGAGGATCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----CCATTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCCCTTTACTTCGCAAATTCTCTGCACTTCTGCCCCGTA-----
                                                                                                        3775
                                                                                                                                                                                                                                                                                                                                                                                                                                   3950
                                                                                                                                                                                                                                                                    18493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4369
```

Best Local Similarity   48.8%;   Pred. No. 5.8e-37;   Indels   59;   Gaps   11;   Matches   976;   Conservative   0;   Mismatches   967;   Indels   59;   Gaps   11;   3542   AAAGTGAAACAGACAGGTGTGGTGGTGGTCTCAGGCTGTAATCCCAGCACTCTGGGAGG   3601   13412   AAATTAAAAAATGCCGAGTGTGGTGGTCCACCTGTAATCCCAGCACTCTGGAGG   13412   AAATTAAAAAAAAAATGCCGAGTTCAAGACCACCTGAATGCCAAA   3613   13472   CCAAGACCGGTGAACCAGGATTCAAGACCAGCCTGCCAAATGGCAAA   3531   3472   CCAAGACCGGATCACTGAGACTTCAAGACCAGCCTGCCAAATGGTGAA   3531   3662   ACCCTGTTCTATAACAAAAATTAGCGGGCATGTGGCATGGCGTGGGCATTGGTGACC   3715   1   1   1   1   1   1   1   1   1	3716 CAGCTACT-AGGGGGCTGAGGAGATCTTTGGAGCCCAGGAGTCAAGGCTGCACT 3774	AAATAAGAAGAAAAATAAAAATGGAAACAACTACAAAGAGCTGTTGTCCTAGATG	3950 ACCTGCACTACATTATTAAATATCAATTCTCAATGTATTATCCACACAAAGACTGGTACG 4009  1	4070 CAACAAGTGAACAATAAACAAAATGTGCTATTATCCATGCAATGGAATACCACCCTGCAG 4129 13952 ACTGATGGCATCCTCTCTCTGGAACTGGAAGCACCACCAAGGATGTTTCG 14011 4130 TACAAAGGAAGAAGCTTGGGGATGAATCCCAAAGTCATGAGGCTAAATGAAATGAAAGGAGTC 4189 11012 AGGCCAGAAGTTTTTAAATTTTTAAATTTTAAAATTATACAAGTGCCAAGC 14071	4190 AGACATGAAGGAGGAGATAATGTATGCCATACGAAATTCTAGAAAATGAAAAATGTAT 4249	AGAGGCCACGT-GGGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCTGGGCAACACA 436	4369 GIGAAACTCCATTCTCCACAAAAATGGGAAAAAAAGAAAGCAAATCAGTGGTTGTCTGT 4428 	4429GGGGGGGAAGGACTGCAAAGAGGGAAGACTCTGGTGGGGTGAGGTGGTGAT 4484	4485 TCAGGTTCTGTATCCTGACTGTTAGGAGTGTTTACATCCAAAAATATTCGT 4544	4545 AGAATTATGCATCTTAAATGGGTGGAGTTTACTGTATGTA
Bes Mata Oy Oy Oy	Oy Oy Ob	oy oy	da ko da	da oy	6	Qy	QQ Dp	do Db	Qy Db	Qy
4831 1747 4891 1741 4951 1735 5011		ATC   CAC CAC TGA	5252 TCAAGTATTACTCTTTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTTGGTCT 5311 17079 AAAGATGCCATTGTTTTTTTTTTTTTTTTTTTTTGAGATGAGTTTCGCTCT 17020 5312 TGTTGCCCATGCTGGAGTGGATGGCTTTTTTTTTTTTTT	5372 GTTCAAGCAAAGCTGTCGCCTCAGCCTCCGGGTAGATGGGATTACAGGCGCCCACCACC 5431 16960 GTTCAAGCAATTCTCCTGCCTCAGCCTCCCAGGGATTACAAGCACCACCACCACC 16901 5432 ACACTCGGCTAA - TGTTTGTATTTTAGTAGAGGGGTTTCACCATTGCCAGGG 5489 1600 ACACTCAGCTAA - TGTTTGTATTTTTAGTAGAGGGGTTTCACCATTGGCCAGGC 5489	TCTCAAACTCCTGACCTCA 5511 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	US-10-072-349-327 ; Sequence 327, Application US/10072349 ; Publication No. US20030054420A1 ; GENERAL INFORMATION:	AFTILE OF INVENTION: Nucleic Acids, Proteins, and Antibodies FILE REFERENCE: PA110C1 CURRENT APPLICATION NUMBER: US/10/072,349	CORRENT FILTLE DATE: 2002-02-11 Prior Application removed - See file Wrapper or Palm NUMBER OF SEQ ID NOS: 334 SOFTWARRE: Patentin Ver. 3.1	SEQ 1D NO 327 LENGTH: 32204 TYPE: DNA ORGANISM: Homo sapiens	

and

or

consult PALM

TITLE OF INVENTION: Nucleic Acids, Proteins, FILE REFERENCE: PA110
CURRENT APPLICATION NUMBER: US/09/764,855
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM NUMBER OF SEQ ID NOS: 334
SOFTWARE: Patentin Ver. 2.0

```
14551
ACAGAGCAAGACTCCGTCTTAAAAAAAATTATTTTTTTAGGGATATGTGATCACAGC 14671
                          4664
                                                                4712
                                                                                  14611
                                                                                                      4772
                                                                                                                                                 14791
                                                                                                                                                                                                                                                                     14852 TTATAGGTGGGAGC----- 14887
                                                                                                                                                                                4891
                                                                                                                                                                                                                                       14851
                                                                                                                                                                                                                                                                                                     5011
                                                                                                                                                                                                                                                                                                                                                                                            15065
                                                                                                                                                                                                                                                                                                                                                                                                                                  15125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15185
                                                                                                                                                                                                                      4951
                                                                                                                                                                                                                                                                                                                              5072 TAAATATGTGCCTGTAGAAAGACTAGAGGAATAAACACAAGAATCTTAACAGTCATTGTC 5131
                                                                                                                                                                                                                                                                                                                                                                                                                                                    5311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5431
                   AAAAATAATGTGTAAGAAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTG
                                    14492 TGTGTTGGTGCTCACCTGTAGTCCCAGTTACTCAGGAGGTTGAGGTGGGAGGATCACCTG
                                                                           AGCCCGGGAAGTTGAGGCTGCAGTGAGCTGTGATCGCACCATTGCACTACAGCCTGGGTG
                                                                                              4713 TGACAGCACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGACTAGGGACAAAAT
                                                                                                                                                                                     4952 GAGGAGGAGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTTAGATCATTTGA
                                                         CCAGGCATCACTTGTGCT-TTCATATCAACCACGCTGTACAGCTTGTTGCTGCTGCCA
                                                                                                                                                                         4832 GCTGCAATGGGGACTCTTGATTTCTTTAAGGAAACTTGGGTTACCAGAGTATTTCCACAA
                                                                                                                                                                                                              14792 CIGCICICAACICCIGGCCICAAGIGAGCCICCIGCCIIGGCCICCCIAAGIGCIGGGA
                                                                                                                                                                                                                                                                                        CTAGTTAAAAAAGCAGCAGAGTACAAAATCACACATGCAATCAGTATAATCCAAATCATG
                                                                                                                                                                                                                                                                                                                                                                    ATTAGACACTAAGTCTAATTATTATTATTAGACACTATGATATTTGAGATTTAAAAAATC
                                                                                                                                                                                                                                                                                                                                                                                 15066 ACCICITIAIACAIACAIATGIGIAITAITIGAGAAIAGAGAAGIGGGAIIGCIGAGCIG
                                                                                                                                                                                                                                                                                                                                                                                                                                            5192 ITTAATAITTTAAAATTTAGAGCTCTTCTATTTTTCCATAGTATTCAAGTTTGACAATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5312 TGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GITCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACACTCGGCTAA - - TGTTTGTATTTTAGTAGAATGGGGTTTCACCATGTTGGCCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTCTCAAACTCCTGACCTCA 5511
                                                         4665
                                                                            14552
                                                                                                                  14612
                                                                                                                                    4773
  14432
                    4605
                                                                                                                                                                                                                                                                                                                                                                   5132
                                                                                                                                                                                                                                                                                         5012
                                                                                                                                                                                                                                                                                                                                                                                      15006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15365
g
                 ò
                                g
                                                   ò
                                                                         q
                                                                                             ò
                                                                                                             g
                                                                                                                                  ò
                                                                                                                                                   QQ
                                                                                                                                                                                        g
                                                                                                                                                                      ò
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ОР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

13591

3716 CAGCTACT-AGGGGGCTGAGGCAGGAGAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACT 

3775

13592

3662 ACCTGTTTCT----ATAACAAAATTAGCCGGGCATGGTGGCATGTGCTGTGGTCC

3715

13651

13471

3601

3542 AAAGTGAAACAGCAGCCAGGTGTGGTGGCTCACGCCTGTAATCCCAGCACTCTGGGAGG 3602 CTGAGGTGGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAAA 

, ,

4.1%; Similarity 48.8%; Conservative

Matches 976;

qq ò

Ωp ò

δ qq δ q ò

Query Match Best Local

TYPE: DNA ORGANISM: Homo sapiens 32204

SEQ ID NO 327

LENGIH:

US-09-764-855-327

Score 226.8; DB 10; Length 32204; Pred. No. 5.8e-37; ); Mismatches 967; Indels 59;

11;

13531

3661

```
13711
                                                                                                              13771
                                                                                                                                                                      13772 TGTAATACAGCACTATGGAAGGCTGAGGCAGGAGGATTGCTTAAGCCCTAGAGTTCAAGA 13831
                                                                                                                                                                                                                                             3832 CCAGACTGGGCAATGTAGTGAGCCCCCCATCTCTACAGGAAACAATAAAATACAATAA 13891
                                                                                                                                                                                                                                                                                                                                                                                               14011
         3834
                                                                            3894
                                                                                                                                                3949
                                                                                                                                                                                                                                                                                                                            13951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4132 CTAAAAATACAAAAATCAGGCTGGGGCGGGTAGCTCATGCCTGTAATCCCAGCACTTTG 14191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4310 AGAGGCCACGT-GGGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCTGGGCAACACA 4368
                                                                   AAATAAGAAGAAAAAAATAAAATAAATGGAAACAACTACAAAGAGGTGTTGTCCTAGATG
                                                                                                   GAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAGGACCATGCCTTGCCTCAAAA
                  3895 AGCTACTTAGTTAGGCTGA----TATTTTGGTATTTAACTTTTAAAGTCAGGGTCTGTC
                                                                                                                                                                                                         3950 ACCTGCACTACATTATTAAAATATCAATTCTCAATGTATTCCACACAAAGACTGGTACG
                                                                                                                                                                                                                                                                               4010 TGAATGTTCATAGTACCTTTATTCACAAAACCCCCAAAGTAGAGACTATCCAAATATCCAT
                                                                                                                                                                                                                                                                                                                13892 AAATGGCAGTTTCTCAGTTTGCTGTGCTGGGTTCTATGTGGTCACTGTCTCTTCAGAATC
                                                                                                                                                                                                                                                                                                                                                                                    13952 ACTGATGCCCAGGTTCACTCTTCAAGACTGGAAGCACCACGACAAGGATGGGATTTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                       4130 TACAAAGGAAGAAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAAATGAAAGAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4190 AGACATGAAGGAGGAGATAATGTATGCCATACGAAATTCTAGAAAATGAAAGTAACTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGGTGGCTCACACCTGTAATTCCGGTACTTTGGGAGAACATGGCAAAACCCTGTCTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4250 AGTTACAGAAAGCAAATCAGGGCAGGCATAGAGGCTCACACCTGTAATCCCAGCACTTTG
                                                                                                                                                                                                                                                                                                                                                    4070 CAACAAGTGAACAAATAAACAAAATGTGCTATATCCATGCAATGGAATACCACCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           14012 AGGCCAGAACTCCAGGTATTTTTTAATTTTTAAAATTATACAGGGGCCAAGC
                                                                     3835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14072
                          QQ
                                                               ò
                                                                                                 Ω
                                                                                                                                    ò
                                                                                                                                                                    qq
                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                       QQ
                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                              Ω
                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ω
```

Sequence 327, Application US/09764855 Patent No. US20020119919A1 GENERAL INFORMATION:

US-09-764-855-327

APPLICANT: Rosen et al

	RESULT 7 US-10-073-961-399 ; Sequence 399, Application US/10073961 ; Publication No. US20030077602A1 ; GENERAL INFORMATION: ; APPLICANT: Rosen et al. ; TITE OF INFORMATION: Nicleic Acids, Proteins, and Antibodies	1301 NUMBER: US/10/073,961 : 2002-03-05 NUMBER: 09/764,887	PRIOR PRIOR PRIOR	PRIOR FILING DATE: PRIOR APPLICATION PRIOR FILING DATE: PRIOR APPLICATION PRIOR APPL	PRIOR FILING DATE: PRIOR APPLICATION PRIOR FILING DATE: PRIOR APPLICATION N	PRIOR FILING DATE: PRIOR APPLICATION N PRIOR FILING DATE: PRIOR APPLICATION N		PRIOR PRIOR PRIOR		PRIOR PRIOR PRIOR			FILING DATE: 2000-06 APPLICATION NUMBER: FILING DATE: 2000-06 APPLICATION NUMBER:	FILING DATE: 2000-09-2 APPLICATION NUMBER: 60 FILING DATE: 2000-08-1 APPLICATION NUMBER: 60	; PRIOR FILING DATE: 2000-07-26 ; PRIOR APPLICATION NUMBER: 60/241,809 ; PRIOR FILING DATE: 2000-10-20 ; PRIOR APPLICATION NUMBER: 60/249,299 ; PRIOR FILING DATE: 2000-11-17 ; PRIOR APPLICATION NUMBER: 60/236,327	
4369 GTGAAACTCCATTCTCCAAAAATGGGAAAAAAGGAAATCAGTGGTTGTCCTGT 4428	4485 TCAGGTTCTGTATCCTGACTGTAGGGGTTTGGGGGTGTTTACATCCAAAATATTCGT 4544	AAAATAATGTGTAAGAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTG	4665 AGCCCTTTACTTCGCAAATTCTCTGCACTTCTGCCCCGTACCATTAGG 4712	4713 TGACACCACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGCTAGGGACAAAAT 4772 	4773 CCAGGCATCACTTGTGT-TTCATATCAACCAGGCTGTAGGCTTGTGTTGCTGTCTGCA 4831 	4832 GCTGCAATGGGGACTCTTGATTTCTTTAAGGAAACTTGGGTTACCAGAGTATTTCCACAA 4891 	4892 ATGCTATTCAAATTAGTGCTTATGATATGCAAGACACTGTGCTAGGAGCCAGAAAACAAA 4951 	4952 GAGGAGGAAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTAGATCATTTGA 5011 	CAGAGTACAAATCACACATGCAATCAGTATAATCCAAATCATG	GIC -	ATTAGACACTAAGTCTAATTATTATTAGACACTATGATATTTGAGATTTAAAAAATC	TTTAATAITTTAAAATTTAGAGCTCTTCTAITTTTCCATAGTATTCAAGTTTGACAATGA ACCTCTTTATACATACATATGTGTATTATTTGAGAAATAGAGAAGTGGGGATTGCTGAGCTG	5252 TCAAGTATTACTCTTTTTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTTGGTCT 5311 	5312 TGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGG 5371 	5372 GTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACC 5431	

,76 ,61 ,26 ,36 ,85	34 34 34 41 441 441 441 34 34 34 34 34 34 34 34 34 34 34 34 34	037 040 960 935 937 787 787 787 787 787 110 581 113 113 113 113
: 2000-09-29 NUMBER: 60/24 : 2000-10-20 NUMBER: 60/24 : 2000-11-01 NUMBER: 60/23 : 2000-08-14 NUMBER: 60/23 : 2000-09-29 NUMBER: 60/23 : 2000-12-08 NUMBER: 60/25 : 2000-12-08	NUMBER: 60/234 1.2000-09-25 2000-09-25 2000-09-01 NUMBER: 60/229 2000-09-01 NUMBER: 60/229 2000-09-05 NUMBER: 60/231 2000-09-05 NUMBER: 60/230 2000-09-05 NUMBER: 60/230 2000-09-05 NUMBER: 60/230 2000-09-05 NUMBER: 60/230 2000-10-02 NUMBER: 60/230 2000-10-02 NUMBER: 60/230 2000-10-02 NUMBER: 60/230 2000-10-02 NUMBER: 60/230 2000-10-02 NUMBER: 60/230 2000-10-02 NUMBER: 60/230 2000-10-02 NUMBER: 60/230 2000-10-02	N NUMBER: 60/237, (COO-10-02) E: 2000-10-02 E: 2000-10-02 E: 2000-10-02 E: 2000-10-20 N NUMBER: 60/239, 9 E: 2000-10-13 N NUMBER: 60/239, 9 E: 2000-10-13 N NUMBER: 60/241, 7 E: 2000-10-13 N NUMBER: 60/246, 5 E: 2000-11-08 N NUMBER: 60/246, 5 E: 2000-11-08 N NUMBER: 60/246, 5 E: 2000-11-08 N NUMBER: 60/246, 5 E: 2000-11-17 NUMBER: 60/226, 6 E: 2000-08-14 NUMBER: 60/225, 7 E: 2000-08-14 NUMBER: 60/235, 8
FILING APPLICA FILING FILING APPLICA	A APPLICATION FILING DATE APPL	APPLICATIO APPLICATIO APPLICATIO APPLICATIO BATING DAT APPLICATIO FILING DAT APPLICATIOI FILING DATI APPLICATION FILING DATE FILING DATE APPLICATION FILING DATE FILING DATE APPLICATION FILING DATE FILING DATE FILING DATE APPLICATION FILING DATE F
PRIOR	PRIOR	PRIOR PRIOR

Length 28588; Query Match
4.1%; Score 225.4; DB 9; Length 2
Best Local Similarity 48.3%; Pred. No. 1.1e-36;
Matches 1154; Conservative 1; Mismatches 1142; Indels PRIOR APPLICATION NUMBER: 60/215,135
PRIOR FILING DATE: 2000-06-30
PRIOR FILING DATE: 2000-06-14
PRIOR FILING DATE: 2000-11-17
PRIOR PELICATION NUMBER: 60/249, 214
PRIOR PELICATION NUMBER: 60/249, 214
PRIOR APPLICATION NUMBER: 60/249, 214
PRIOR PAPLICATION NUMBER: 60/249, 215
PRIOR PAPLICATION NUMBER: 60/249, 215
PRIOR PAPLICATION NUMBER: 60/249, 216
PRIOR PAPLICATION NUMBER: 60/23, 400
PRIOR PAPLICATION NUMBER: 60/23, 401
PRIOR PAPLICATION NUMBER: 60/23, 63
PRIOR PAPLICATION NUMBER: 60/23, 64
PRIOR PILING DATE: 2000-09-08
PRIOR PAPLICATION NUMBER: 60/23, 64
PRIOR PILING DATE: 2000-09-14
PRIOR PELING DATE: 2000-09-14
PRIOR APPLICATION NUMBER: 60/23, 401
PRIOR PELING DATE: 2000-09-14
PRIOR PELING DATE: 200

15;

94; Gaps

a δλ

		ර <u>ති</u>		ଟି ଅ 	<i>3</i>	- G	O O	Qy Dp	δγ - -	δο	da ———	ος 
11738 TITCAGCICACTGCAACCICTGCCTCCGGGTICAAGTGAITCTCTTGCCTCAGCCTCCC 21797 5402 GGGTAGAIGGGAITACAGGCGCCCACCACACACCTCGGCTAATGTITTAGTAG 5461 1   1   1   1   1   1   1   1   1   1	RESULT 8  RESULT 8  US-09-764-887-399  US-09-764-887-399  Sequence 399, Application US/09764887  Sequence 399, Application US/09764887  Sequence 399, Application US/09764887  Sequence 310-70-10-10-10-10-10-10-10-10-10-10-10-10-10	Ouery Match 4.1%; Score 225.4; DB 10; Length 28588; Best Local Similarity 48.3%; Pred. No. 1.1e-36; Matches 1154; Conservative 1; Mismatches 1142; Indels 94; Gaps 15;	TTTAGGTTTTTTATGTTTTTGATTTTTTAAAGACAATCTCACCCTGTTACCAG			GATCCATTTAGATTAAAATATGCATTTTAAATTTTAAAATAATATGGCTAATTTTT		AAGTGCTTTCCAATAAGCTTCATGTACGTGAGGGGAGACATTTAAAGTGAACA 	GACAGCCAGGTGTGGTGGCTCACGCTGTAATCCCAGCACTCTGGGAGGCTGAGGTGGGT		ATAACAAAAATTAGCCGGGCATGGTGGCATGTGCGTGGGTCGCTGTGGTCCCAGCTACTA	GGGGGTGAGGAGAATCTTTGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCT
21738 5402 21798 5462	SULT 8 SULT 8 Sequence 399, A Patent No. US20 GENERAL INFORMA APPLICANT: ROS TITLE REFERENCE CURRENT FILING FILOT APPLIC CURRENT FILING FILOT APPLICATION SOFTWARE: PATE SOFTWARE: PATE SOFTWARE: DAA ORGANISM: HORM ORGANISM: HORM ORGANISM: HORM	ery Matest Loca	3213	3273 19581	3333 19641	3390 19701	3446	3499	3553 19881	3613	3673	3725 20061
Db Qy Db	R S S S S S S S S S S S S S S S S S S S	D Be	Qy	Oy Dp	oy op	δ a.	Qy Db	Qy	Qy	Oy Op	ζό O	oy B

```
20361 TATACCTTTTATATCACGAATGATGGTTAATTTTAAATAGCACTTACAGTATAAACTTAC 20420
                                                                                                                                                                                                 20301 AGACTTAATGGTTTTTTTTTTTTTTAAATTACATTTGAAATGAGGGCTTTCATATAC 20360
                                                                                                                                                                                                                                                                                                    20481 TAGTTAAAGATTAAGCCATTGTAACTTGACAGTAAAATATAAACATGATTAGGAATAAA 20540
                                                                                                                                                                                                                                                                                                                                                                                                                       20720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20721 TGTATGTTAAAATAATTTTTCAAAGAAATACAAGGTTAGGCTATGAACAATTTATGATTT 20780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20961 ATTGAGCTTTACACCTAGCTTCTGAGAGTCACTGTAATGGAAAAGAGAAAGCCAGATAATT 21020
                                                                                                                                                                                                                                                                                                                                                                                                        4242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21021 TCTTGGCCATACCCTGCCTTCAAACTTATCCAGGATGTGTTCATTTTGCAGGTCTTGGAG 21080
                                                                                                                                                                                                                             GTGAATGTTCATAGTAC-CTTTATTCACAAAACCCCAAAGTAGAGAGACTATCCAAATATCC 4067
                                                                                                                                                                                                                                                                                   4068 ATCAACAAGTGAACAAATAAACAAAATGTGCTATATCCATGCAATGGAATACCACCCTGC 4127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21141 GAATGGAAAAGCATTCAAAAACGGAATGGCAGTTGCCAGTTCCTGGAATCTAATCCTT 21200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4600 TAAGAAAAATAATGTGTAAGAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAAT 4659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4660 TCCTGAGCCCTTTACTTCGCAAATTCTCTGCACT.TCTGCCCCGTACCATTAGGTGACAG 4718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4773 CCAGGCATCACTTGTGCTTTCATATCAACCACGCTGTACAGCTTGTGTTGCTGTCTGCAG 4832
                                                                                                               3889 TAGATGAGCTACTTAGTTAGGCTGATATTTTGGTATTTAACTTTTAAAGTCAGGGTCTGT
                                                                                                                                                                      3949 CACCTGCACTACATTATTAAAATATCAATTCTCAATGTATATCCACACAAAAGACTGGTAC
                                                                                                                                                                                                                                                                                                                                           4128 AGTACAAAGGAAGAAGC----TACTTGGGGATGAATCCCAAAGTCATGACGCTAAATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20601 AAGTAGAAATGAAGTATATATCTGGAGGCATGTGAAATCATTGACCCCTTTGCACAAAG
                                                                                                                                                                                                                                                                                                                                                                                                  4184 AGAGTCAGACATGAAGGAGGAGATAATGTATGCCATACGAAAT-TCTAGAAAATGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                         4243 AACTTATAGTTACAGAAAGCAAATCAGGGCAGGCATAGAGGCTCACACCTGTAATCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4303 CACTITGAGAGGCCACGTGGGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20661 GCTAAATAGAATATTAGTAGAATATTCAGTAATAATAGGACTTGAACTGCTGTTTTTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4423 TCCTGTGGGGAGGGGAAGGACTGCAAAGAGGGAAGA---AGCTCTGGTGGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4480 GTGATTCAGGTTCTGTATCCTGACTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4719 CACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGACTAGGGACAAAA-----T
                                                           AAAAATTAAAATAAATGGAAACAACTACAAAGAGC-----
                                                         3845
                                                                                                                                                                                                                               4009
                         qq
                                                                                                      Qγ
                                                                                                                                     qq
                                                                                                                                                               o
o
  ò
                                                       òγ
                                                                             QQ
                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                  Db
Qy
                                                                                                                                                                                                                                                                                                      QΩ
                                                                                                                                                                                                                                                                                                                                        ρý
                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \tilde{\mathcal{S}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ⋩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ϋ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       >
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \succ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ω
```

us-09-966-880a-9.rnpb

```
3741 GAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCC 3800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3325 CAATCCTCCTGCCTTGGCCTCCCAAAGTGTTGGGA-TACAGTCATGAGCCACTGCATCTG 3383
                                                                                                                                                                GC -- CTAGGATCCATTTAGATTAAAATATGCATTTTAAAATTTTAAAATAATATGGCTAAT
                                                                                                                                                                                                                                                        ATTAGCCGGCCATGGTGCCATGTGCCTGTGGTCCCAGCTACTAGGG-GGCTGAGGCAGGA
                                        CAGGCTGGAGTGCAGTGGTGCAATCATAGCTTTCTGCAGTCTTGAACTCCTGGGCTCAAG
                                                                                                                                                                                                    3442 ITTTACCTTATGTAATGTGTATACTGGTAATAAATCTAGTTTGCTGCCTAAAGTTTAAAG
                                                                                                                                                                                                                             5697 AATTCC-----TGACCTCAAGTGATTACCCATCTCGGCCTCCCAAAGTGCTGGG
                                                                                                                                                                                                                                                                                                                                                                 GAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAAACCCTGTTTCTATAACAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAATCGCTTGAACCTAAGAGGCAGAGGTTGCAGTAAGCCGAGATCGCGCCGCTGCACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 984; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ||
TG 6102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TG 3862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
US-09-764-872-518/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              32152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-764-872-518
                                                                                                                                                                                                                                                                                                                                                                   3622
                                                                                                                                                                                                                                                                                                                                                                                                                     3682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3861
                                                                                                                                                  3384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH:
                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                     δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                qq
                                                                                                                   QO
                                                                                                                                                                                                 οy
                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                         δλ
                                                                                                                                                                                                                                                                                                                                                                 ò
                                       Qγ
                                                                                        δý
                                                                                                                                                δ
                                                                                                                                                                        g
                                                                                                                                                                                      21381 TCAGGTGGAAAGATAGACCTGGTCTCTACTGTTGTATTGCCTCTAGTTTAGTGGATG 21440
                                                                                                                                                                                                                                                                                              21501 AGGCTTGTGTATACCTATTCAAAGATTTTAACATTAGACTTTTCAGTTGATTTGCTTATA 21560
                                                                                                                                                                                                                                                                                                                                          21680
                                                                                                                                                                                                                                                                                                                                                                                                                                                             21737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21441 CTTGGATAGTAGAAAATCAGTTTTATGCATTAGTTGTTCCTGTGGTGGTGTTGTTGATTTGA 21500
                                                                                                                                                                                                                                                                                                                                                                                5281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5401
                                                                                                                                                                                                                                                                                                                          5221
                                                                                                         -TGTGGGAA 4981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGGTAGATGGGATTACAGGCGCCCCACCACCACTCGGCTAATGTTTGTATTTTAGTAG 5461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGTAGAAAAGGTTATTTATCCTGGTATGTTAATTTTGATTTCTAAGCAGATCTACTAGGA
                                                     4884 TICCACAAATGCTATICAAATTAGTGCTTATGATATGCAAGACACTGTGCTAGGAGCCAG
                                                                   21321 CACGTATTGTTTTTTTTTATTATTATTGAGCACTGCCATGTGTCAGGCTCTGTGGGGG
                                                                                                                                                             4982 CAACATAGCAAGATATTTAGATCATTTTGACTAGTTAAAAAAGCAGCAGAGTACAAAATC
                                                                                                                                                                                                                 5042 ACACATGCAATCAGTATAATCCAAATCATGTAAATATGTGCCTGTAGAAAGACTAGAGGA
                                                                                                                                                                                                                                                                     5102 ATAAACACAAGAATCTTAACAGTCATTGTCATTAGACACTAAGTCTAATTATTATTA
                                                                                                                                                                                                                                                                                                                          5162 GACACTATGATATTTGAGATTTAAAAAATCTTTAATATTTTAAAATTTAGAGCTCTTCTA
                                                                                                                                                                                                                                                                                                                                                                              5282 TTTTTTTTTTTTGAGATGGAGTTTTTGGTCTTGTTGCCCCATGCTGGAGTGGAATGGCATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 10855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20;
 4833 CTGCAATGGGGACTCTTGATTTCTTTAAGGAAACTTGGGTTACCAGAGTAT~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Rosen et al.

TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies FILE REFERENCE: PC006
CURRENT APPLICANT: 2001-01-17
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM or file wrapper NUMBER OF SEQ ID NOS: 10231
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 7965
LENGTH: 10855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 221.6; DB 9;
Pred. No. 3.9e-36;
0; Mismatches 219;
                                                                                                       4944 AAAACAAAGAGGAGAGAAATCAGTCATTA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 7965, Application US/09764891; Publication No. US20030077808A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 63.9
Matches 423; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: Homo sapiens
US-09-764-891-7965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-764-891-7965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5402
                                                                                                                                                                                                                                                                                                                                                                                                         21621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 9
                                                                                                                               a
                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                           a
                                                                                                      ò
                                                                                                                                                             ò
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                         δŻ
                         8
                                                   ò
```

3740

```
3590
                                                                                                                                                                                                                                                                                                                                                                                                                         12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3531 GGGAGACATTTAAAGTGAAACAGACAGCCAGGTGTGGTGGTGGCTCACGCCTGTAATCCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62;
                                                                                                                                                                                                                                                                                                                                                                            Length 32152,
Sequence 518, Application US/09764872
Publication No. US20030050231A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PA125
CURRENT APPLICATION NUMBER: US/09/764,872
CURRENT FILIG DATE: 2001-01-17
Prior application data removed - consult PALM or file wrapper
NUMBER OF SEQ ID NOS: 957
                                                                                                                                                                                                                                                                                                                                                        Score 221.2; DB 9; 1
Pred. No. 8.8e-36;
                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
```

3205 GTATTCATTTTATGTTTTTATGTTTTTGATTTTTTAAAAGACAATCTCACCCTGTTACC 3264

ò

Fri

GGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	3763 23379	AAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACCTGGGTGACAGGACCAGACC 3823	OY TTGCCTCAAAAAAATAAGAAGAAAAATAAAATGGAAACAACTACAAAGAGCTGT 3883	TGTCCTAGATGAGCTAGTTAGGCTGATATTTTGGTATTTAACTTTTAAAGT 3938         QY	CAGGGTCTGTCACCTGCACTACATTAAAAATATCAATTCTCAATGTATATCCACACAA 3998	AGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAACCCCAAAGTAGAGACTATC 4058	CAAATATCCATCAACAAGTGAACAAATAACAAAATGTGCTATATCCATGCAATGGAATA 4118  QY TCTTCAGAATCACTGATGGCCAGGTTCACTCTTCAAGACTGGAAGCAGCACGAGGA 23019  TCTTCAGAATCACTGATGGCCAGGTTCACTCTTCAAGACTGGAAGCAGCACAAGGA 23019	CCACCCTGCAGTACAAAGGAAGAAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAA 4178  CACCCTGCAGTACAAGAAGACTCCAGGATTTTTTAAAATTTTAAAATTAAAATTAAAATTTTAAAATTAAAA	ATGAAAGAGTCAGACGAGGAGAGATAATGTATGCCATACGAAATTCTAGAAAATGA 4238	AAGTAACTTATAGTTACAGAAATCAGGGCAGGCATAGAGGCTCACACCTGTAATC         4298             1	CCAGCACTTTGAGAGGCCACGTG-GGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCC 4357	TGGGCAACACAGTGAAACTCCATTCTCCACAAAAATGGGAAAAAAGAAGAAAGCAAATCAGT 4417	4473	AGGGGGGGGAGATTCAGGTTCTGAGCTGTGGGAGCAGTTTGGGGTGTTTACATCCA 4533 RE.	AAAATATTCGTAGAATTATGCATCTTAAATGGGTGGAGTTTACTGTATGTA	4653
23618 ( 3591 ) 23558 ) 3651 ) 23498 )		3764 <i>1</i> 23378 (	3824 T	3884 1 23258 1	3939 C	3999 A	4059 C	4119 C 23018 T	4179 A 1 22958 A	4239 A	4299 C 1 22838 C	4358 T 1 22778 T	4418 G 22718 T	4474 A 22658 A	4534 A 22598 A	4594 T 22538 A
90 60 90 90 60 90	Oy Dp	oy Dp	Oy Db	Oy Dp	Oy Op	Qy Db	Oy Db	Qy Db	Qy Db	Qy Db	ر م م	Oy Db	Qy Dp	oy Db	ç, a	Qy Db

```
21728
                                                                                                                                                                                                                                                                                                              22298 AGGIGIGIGCCACCCCCTGGCTAATTTTTTAAAATTTTTTGTAGAGATGGGGTCATGCTA 22239
                                                                                                                                                                                                                                                                                                                                                                                                      22179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5419
                                                                                                                                                                                                                                                                  4821 TGCTGTCTGCAGCTGCAATGGGGACTCTTGATTTCTTTAAGGAAACTTGGGTTACCAGAG 4880
                       4703 -TACCATTAGGTGACAGCACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGACT
                                                                                                                                                                             4762 AGGGACAAAATCCAGGCATCACTTGTGCTT-TCATATCAACCACGCTGTACAGCTTGTGT
                                                                                                                                                                                                                      22358 GTGATCACAGCTCACTGTAACCTTGAACTCCTTACTTCAAGCAGTCCTACCACAGCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                    22238 TGTTGCCCAGGCTGCTCTCAAACTCCTGGCCTCAAGTGAGCCTCCTGCCTTGGCCTCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                               4941 CAGAAAACAAAGGAGGAGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22178 AAGTGCTGGGATTATAGGTGGGAGC------CACTGCATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5001 GATCATTTTGACTAGTTAAAAAGCAGCAGGGTACAAAATCACACATGCAATCAGTATAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5061 TCCAAATCATGTAAATATGTGCCTGTAGAAAGACTAGAGGAATAAAC-ACAAGAATCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5120 ACAGTCATTGTCATTAGACACTAAGTCTAATTATTATTAGACACTATGATATTTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5360 TCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4881 TATTTCCACAAATGCTATTCAAATTAGTGCTTATGATATGCAAGACACTGTGCTAGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5180 ATTTAAAAATCTTTAATATTTTAAAATTTAGAGCTCTTCTATTTTCCATAGTATTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21962 CTTGTACACACCTCTTTATACATACATATGTGTATTATTTTGAGAATAGAGAAGT----GG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5420 GCGCCCACCACACACTCGGCTAA--TGTTTTTTTTTTTAGTAGAGATGGGGTTTCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5300 GAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACC
  TCAAATTCCTGAGCCCTTTACTTCGCAAATTCTCTGCACTTCTGCCCCG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 328, Application US/10072349
Publication No. US20030054420A1
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Nucleic Acids, Proteins, and Anticle Reference: PA110C1
CURRENT APPLICATION NUMBER: US/10/072,349
CURRENT FLILNG DATE: 2002-02-11
Prior Application removed - See file Wrapper or Palm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ESULT 11
S-10-072-349-328
4654
                                                                                                                            Д
                                                                                                                                                                                                                      ڡۣ
                                                                                                                                                                                                                                                                                                                                                                                                 ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         а
```

```
10306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4880
                                                                                                                                                                                                                                                                                                                                                                 5000
                                                                                                                                                                                                                                                                                                                                                                                     GTTGCATTTCTTTATTTAATTACATCTTTGATCTTTTCATATCAATATACATATCCTCATT 10070
                                                                                                                                                          4702
                                                                                                                                                                                                                                          4820
                                                                                                                                                                                                                                                                                                                                             9974
                9494
                                                                                                                                                                             9734
                                                                                                                                                                                                  4761
                                                                                                                                                                                                                                                             9854
                                                                                                                                                                                                                      9794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTACACCTTTAATCCCAGCTACTAAGGAGGCTGAGGCAAGAGAATTGCTTGAACCTGGG
                                    AGGGTGGTGATTCAGGTTCTGTATCCTGACTGTGGTAGCAGTTTGGGGTGTTTACATCCA
                                                       AAGCGGTGGTTGCAGCAAGTCAAGATTGTGTGCCATTGCAATCCAGCCTGGGTGACAGCA
                                                                           TCAATGTAAGAAAAATAATGTGTAAGAAAAGTTTCAATTCTTGCCAGCAAACGTTAT
                                                                                                                                AGGATCACCTGAGCCCGGGAAGTTGAGGCTGCAGTGAGCTGTGTGATCGCACCATTGCACTA
                                                                                                                                                                                                  -TACCATTAGGTGACAGCACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGACT
                                                                                                                                                                                                             AGGGACAAAATCCAGGCATCACTTGTGCTT-TCATATCAACCACGCTGTACAGCTTGTGT
                                                                                                                                                                                                                                                             GIGATCACAGCICACTGTAACCTIGAACTCCTTACTICAAGCAGTCCTACCACAGCCTAC
                                                                                                                                                                                                                                                                                   TGCTGTCTGCAGCTGCAATGGGGACTCTTGATTTCTTTAAGGAAACTTGGGTTACCAGAG
                                                                                                                                                                                                                                                                                                      AGGTGTGTGCCACCCCTGGCTAATTTTTTAAAATTTTTTGTAGAGATGGGGTCATGCTA
                                                                                                                                                                                                                                                                                                                          TATITICCACAAATGCTATICAAATTAGTGCTTATGATATGCAAGACACTGTGCTAGGAGC
                                                                                                                                                                                                                                                                                                                                            TGTTGCCCAGGCTGCTCTCAAACTCCTGGCCTCAAGTGAGCCTCCTGCCTTGGCCTCCCT
                                                                                                                                                                                                                                                                                                                                                                 CAGAAAACAAAGAGGAGGAGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTTA
                                                                                                                                                                                                                                                                                                                                                                                                         GATCATTTTGACTAGTTAAAAAGCAGCAGCAGTACAAAATCACACATGCAATCAGTATAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 5061 TCCAAATCATGTAAATATGTGCCTGTAGAAAGACTAGAGGAATAAAC-ACAAGAATCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACAGTCATTGTCATTAGACACTAAGTCTAATTATTATTAGACACTATGATATTTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5180 ATTTAAAAAATCTTTAATATTTTAAAATTTAGAGCTCTTCTATTTTCCATAGTATTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCAAATTCCTGAGCCCTTTACTTCGCAAATTCTCTGCACTTCTGCCCCG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5120 /
                                                                                                                                                                                                                                          4762
                                                                                                                                                                                                                                                                                                      9855
                                                                                                                                                                                                                                                                                                                                             9915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10307
                 9435
                                                       9495
                                                                                              9555
                                                                                                                   4594
                                                                                                                                       9615
                                                                                                                                                         4654
                                                                                                                                                                                                  4703
                                                                                                                                                                                                                      9735
                                                                                                                                                                                                                                                               9795
                                                                                                                                                                                                                                                                                   4821
                                                                                                                                                                                                                                                                                                                                                                                                         5001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5360
                                                                                                                                                                                                                                                                                                                                                                                                                             10011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5420
                                                 do
Qy
                                                                                        a
                                                                                                                                                                       90 AA
                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                  8 8
                                                                                                                                                                                                                                                                                                                   Qy
Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                             6
6
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           òλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                             οŽ
                                                                                                                Q
Dp
                                                                                                                                                   οŽ
                                                                                                                                                                                                                                                                                                                                    3883
                                                                                                                                                                                                                                                                                                                                                                           3938
                                                                                                                            3590
                                                                                                                                                8594
                                                                                                                                                                                        8654
                                                                                                                                                                                                                                                                                                                                                                                                                  CAGGGTCTGTCACCTGCACTACATTATTAAAATATCAATTCTCAATGTATATCCACACAA 3998
                                                                                                                                                                                                                                                                                                                                                                                                                                       9014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTTGTCCTGT----GGGGAGGGAAGGACTGCAAAGAGGGAAGAAGCTCTGGTGGGGGTG 4473
                                                                                                         12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGGATTITCGAGGCCAGAACTCCAGGTATTTTTAATTTTTTAATTTTAAAATTATAC 9194
                                                                                                                                                                  CAAATATCCATCAACAAGTGAACAAATAAACAAAATGTGCTATATCCATGCAATGGAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCACCCTGCAGTACAAAGGAAGAAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGGGCCAAGCACGGTGGCTCACCTGTAATTCCGGTACTTGGGAGAACATGGCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTGTCTCTACTAAAAATACAAAAAATCAGGCTGGGCGGGTAGCTCATGCCTGTAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTGTGGTCCCAGCTACT-AGGGGGCTGAGGCAGGAGAATCTTTGGAGCCCAGGAGGTC
                                                                                                                                                                                                                                                                                          AAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAGGACCAGACC
                                                                                                                                                                                                                                                                                                                                   TIGCCTCAAAAAATAAGAAGAAAATTAAAAATAAATGGAAACAACTACAAAGAGCTGT
                                                                                                                                                                                                                                                                                                                                                                          TGTCCTAGATGAGCTACTTAGTTAGGCTGA - - - - TATTTTGGTATTTAAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAACCCCCAAAGTAGAGACTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAATACAATAAAAATGGCAGTTTCTCAGTTTGCTGTGCTGGGTTCTATGTGGTCACTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAAAGAGTCAGACATGAAGGAGGAGATAAATGTATGCCATACGAAATTCTAGAAAATGA
                                                                                                                                        AACATGGCAAAACCCTGTTTCT - - - - - ATAACAAAAATTAGCCGGGCATGGTGGCATGT
                                                                                                                                                                                                                                                                                                                                                                                            TGGCTCACACCTGTAATACAGCACTATGGAAGGCTGAGGCAGGAGGATTGCTTAAGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGTAACTTATAGTTACAGAAAGCAAATCAGGGCAGGCATAGAGGCTCACACCTGTAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGCACTTTGAGAGGCCACGTG - GGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGGAGACATTTAAAGTGAAACAGACAGGTGTGGTGGCTCACGCCTGTAATCCCAGC
                                                                                    Length 32152;
                                                                                    Score 221.2; DB 9;
Pred. No. 8.8e-36;
0; Mismatches 968;
                                                                                   4.0%;
llarity 48.9%;
Conservative
334
3.1
                                                       sapiens
                                                                                              Similarity
    SEQ ID NOS
   NUMBER OF SEQ II
SOFTWARE: Patent
SEQ ID NO 328
LENGTH: 32152
                                                     ; ORGANISM: HOMO
US-10-072-349-328
                                                                                   Query Match
Best Local Simil
Matches 984; (
                                                                                                                           3531
                                                                                                                                                                  3591
                                                                                                                                                                                      8595
                                                                                                                                                                                                                              8655
                                                                                                                                                                                                                                                   3705
                                                                                                                                                                                                                                                                                          3764
                                                                                                                                                                                                                                                                                                                                  3824
                                                                                                                                                                                                                                                                                                                                                      8835
                                                                                                                                                                                                                                                                                                                                                                         3884
                                                                                                                                                                                                                                                                                                                                                                                             8895
                                                                                                                                                                                                                                                                                                                                                                                                                  3939
                                                                                                                                                                                                                                                                                                                                                                                                                                     8955
                                                                                                                                                                                                                                                                                                                                                                                                                                                         3999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4239
                                                                                                                                                                                                          3651
                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                         g
                                                                                                                                                                 ò
                                                                                                                                                                                8
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                  8 y 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       o o o
                                                                                                                           ò
                                                                                                                                                                                                    ò
```

```
3590
                                                                                                                                                                                                                                                                                                                                                                                                                                        3650
                                                                                                                                                                                                                                                                                                                                                                                                             8594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3764 AAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAGGACCAGACC 3823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTCCTAGATGAGCTACTTAGTTAGGCTGA----TATTTTGGTATTTAACTTTTAAAGT 3938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3939 CAGGGTCTGTCACCTGCACTACATTATTAAAATATCAATTCTCAATGTATATCCACACAA 3998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCACCCTGCAGTACAAAGGAAGGTACTTGGGGATGAATCCCAAAGTCATGACGCTAA 4178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAAAGAGTCAGACATGAAGGAGGAGATAATGTATGCCATACGAAATTCTAGAAAATGA 4238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGGGCCAAGCACGGTGGCTCACACCTGTAATTCCGGTACTTTGGGAGAACATGGCAAAA 9254
                                                                                                                                                                                                                                                                                                                                                                      3531 GGGAGACATTTAAAGTGAAACAGACAGCCAGGTGTGGGGCCTCACGCCTGTAATCCCAGC
                                                                                                                                                                                                                                                                                                                                                                                         ACTCTGGGAGGCTGAGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACATGGCAAAACCCTGTTTCT ----ATAACAAAATTAGCCGGGCATGGTGGCATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAATACAATAAAAATGGCAGTTTCTCAGTTTGCTGTGCTGGGTTCTATGTGGTCACTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCCTCAAAAAATAAGAAGAAAATTAAAAATAAATGGAAACAACTACAAAGGGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAAATATCCATCAACAAGTGAACAAATAAACAAAATGTGCTATATCCATGCAATGGAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9075 TCTTCAGAATCACTGATGGCCAGGTTCACTCTTCAAGACTGGAAGCAGGACGACGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8895 resercacacereraracaecacraresaageereagecagearrecraaageeer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8955 AGAGTICAAGACCAGACTGGGCAATGTAGTGAGACCCCCCCATCTCTACAGGAAACAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3999 AGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAACCCCAAAGTAGAGACTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9135 TGGGATTTTCGAGGCCAGAACTCCAGGTATTTTTAATTTTTAATTTTAAAATTATAC
                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                       Length 32152;
                                                                                                                                                                                            wrapper
                                                               Sequence 328, Application US/09764855
Patent No. US20020119919A1
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PAll0
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM or file wrappe
NUMBER OF SEQ ID NOS: 334
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                 Score 221.2; DB 10; Length
Pred. No. 8.8e-36;
0; Mismatches 968; Indels
 CGTTGGCCAGGCTGGTCTCCAACTCCTGAACTCA 10519
                                                                                                                                                                                                                                                                                                                4.0%;
                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 48.99
Matches 984; Conservative
                                                                                                                                                                                                                                                        ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-764-855-328
                                                                                                                                                                                                                          SEQ ID NO 328
LENGTH: 32152
 10486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8715
                                                                                                                                                                                                                                                                                                                                                                                                    8535
                                                                                                                                                                                                                                                                                                                                                                                                                                                            8595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4059
셤
                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      O.y
D.b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
```

```
4417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4357
                                                                                                                                                                  4473
                                                                                                                                                                                             9494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10131 ACGGAAATTATGATTGTTACAGTTTTTTGCTATTACCAAGAGTGTTGACAGTGAACATT 10190
                                                                                                                                                                                                                                                                                                                         TCAATGTAAGAAAAAAAATGTGTAAAGAAAAGTTTCAATTCTCTTGCCAGCAAACGTTAT 4653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5119
                                                                                                                                                                                                                                                                                                                                                                                                      9675 AGGATCACCTGAGCCCGGGAAGTTGAGGCTGCAGTGAGCTGTGATCGCACCATTGCACTA 9734
1239 AAGTAACTTATAGTTACAGAAAGCAAATCAGGGCAGGCATAGAGGCTCACACCTGTAATC
               TGGCCAACATGGCGAAAACCCCATCTCTACTAAAAATAACAAAAATTAGCCGGCATGGTTG
                                                                                                                                                           4474 AGGGTGGTGATTCAGGTTCTGTATCCTGACTGTGGTAGCAGTTTGGGGTGTTTACATCCA
                                                                                                                                                                                                                                        AAGCGGTGGTTGCAGCAAGTCAAGATTGTGCCATTGCAATCCAGCCTGGGTGACAGCA
                                                                                                                                                                                                                                                                                              CCAGCACTTTGAGAGGCCACGTG-GGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGGC
                                                                                                         9615 AATTAGCTGGGTGTGTTGTTGCTCACCTGTAGTCCCAGTTACTCAGGAGGTGAGGTGAGGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4762 AGGGACAAAATCCAGGCATCACTTGTGCTT-TCATATCAACCACGCTGTACAGCTTGTGT
                                                                                                                                                                                                                                                                                                                                                                             4654 TCAAATTCCTGAGCCCTTTACTTCGCAAATTCTCTGCACTTCTGCCCCG------
                                                                                                                                                                                                                                                                                                                                                                                                                                   4703 -TACCATTAGGIGACAGCACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           9735 CAGCCIGGGIGACAGAGCAAGACTCCGICTIAAAAAAAAATTITITITIAGGGATAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9795 GTGATCACAGCTCACAGTAACCTTGAACTCCTTCAAGCAGTCCTACCACAGCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1821 TGCTGTCTGCAGCTGCAATGGGGACTCTTGATTTCTTTAAGGAAACTTGGGTTACCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9855 AGGTGTGTGCCACCCCTGGCTAATTTTTTAAAATTTTTTGTGGGGTCATGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4881 TATTTCCACAAATGCTATTCAAATTAGTGCTTATGATATGCAAGACACTGTGCTAGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4941 CAGAAAACAAAGAGGAGGAGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5061 TCCAAATCATGTAAATATGTGCCTGTAGAAAGACTAGAGGAATAAAC-ACAAGAATCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5120 ACAGTCATTGTCATTAGACACTAAGTCTAATTATTATTAGACACTATGATATTTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATCATTTTGACTAGTTAAAAAAGCAGCAGCAGTACAAAATCACACATGCAATCAGTATAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0191 CTTGTACACCTCTTTATACATATGTGTATTATTTGAGAATAGAGAGT----GG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5180 ATTTAAAAAATCTTTAATATTTTAAAATTTAGAGCTCTTCTATTTTCCATAGTATTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9495
                                                                                                                                   9375
                                                                                                                                                                                                                                                                                                                           4594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5001
                   QQ
                                                   οy
                                                                           qq
                                                                                                                              qq
                                                                                                      Ω
                                                                                                                                                           Qγ
                                                                                                                                                                                   Ω
                                                                                                                                                                                                              Ôγ
                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                     δλ
                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                              ολ
                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
Sequence 6, Application US/10216373

Sequence 6, Application US/10216373

Publication No. US2030096750A1

GENERAL INFORMATION:
APPLICANT: Tombran-Tink, Joyce
APPLICANT: Chader, Gerald J
APPLICANT: Chader, Gerald J
APPLICANT: Chader, Gerald J
APPLICANT: Becerra, Sofia P
APPLICANT: Godriguez, Ignacio R
TITLE OF INVENTYON: RETINAL PICMENTED EPITHELIUM DERIVED NEUROTROPIC FACTOR
FILE REFERENCE: 2026-4203021
CURRENT APPLICATION NUMBER: US/10/216,373

PRIOR FILING DATE: 1995-00-29

PRIOR FILING DATE: 1995-01-25

PRIOR FILING DATE: 1992-06-04

PRIOR FILING DATE: 1992-06-04
3988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3657
                                                                                                                                                          3726 GG-GGCTGAGGCAGGAGAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCT 3784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTCCCAGCTACTAGGG-GGCTGAGGCAGGAGTCTTTGGAGCCCAGGAGGTCAAGGCT 3769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T----ATAACAAAATTAGCCGGGCATGGTGGCATGTGCCTGTGGTCCCAGCTACTAG
                                                                                                                                                                                    3538 ATTTAAAGTGAAACAGACAGCCAGGTGTGGTGGCTCACGCCTGTAATCCCAGCACTCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4107 AGTTAAAGAGGTTTTGCTGGCCAGGTATGGTGGCTCACGCCTGTAATCCCAGCACTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGGCTGAGGTGGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3658 CAAAACCCTGTTTCT-----ATAACAAAAATTAGCCGGGCATGGTGGCATGTGCCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 4421;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 218.6; DB 9;
Pred. No. 9.8e-36;
1; Mismatches 995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: CDS 66-322
US-10-216-373-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 4.0%;
Best Local Similarity 47.7%;
Matches 952; Conservative
                                                                                                                                                                                                                                                                                                                                                                                         24715 TAGA 24712
                                                                                                                                                                                                                                                                                                                                            3845 AAAA 3848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 14
US-10-216-373-6/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 4421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                  ŏ
                                                                                                             g
                                                                                                                                                 δ
                                                                                                                                                                                              9
                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                               25316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25255 AATCCTCCTGCCTCAGCCTCTCAAGTAGCTGGGACTACAGGCATGCACCACCACCACCTCCTGG 25196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTAATTAAAAATGTTTTTGTAGAGATGGGGGTCTCATTATGTTGCCCAGGTCAGCCTTG 25136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25135 AACTCCTGGCTTCAAATGATCCTCCTGCCTCACCTTCCCCCAAAGTGTCAGGATTACTGG 25076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3385 CCTAGGATCCA----TTTAGATTAAAATATGCATTTTAAATTTTAAAATAATATTGGCTAA 3440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3146 ATTACCATAAAATTAWTATCCTTTTAAAATAAAGCTAATTATTATTGGATCTTTTTAG 3205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTC 3671
GAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATGCCATGAYCATAGCTCACTGCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3501 GTGCTTTCCAATAAGCTTCATGTACGTGAGGGGAGACATTTAAAAGTG------AAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3552 AGACAGCCAGGTGTGGTGGCTCACGCCTGTAATCCCAGCACTCTGGGAGGCTGAGGTGGG
                                        10307 GAGTTTCGCTCTTGTTGCCCAGGCTGAAAATGGCGTGA-CTTGGCTCACTGAAACC
                                                                                       TCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAG
                                                                                                                                                                               GCGCCCACCACCACACTCGGCTAA - - TGTTTGTATTTTTAGTAGAGATGGGGTTTCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3206 TATTCATTTTATGTTTTTATGTTTTTGATTTTTAAAAGACAATCTCACCCTGTTACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGGCTGGAGTGCAGTGCTGCAATCATAGCTTTCTGCAGTCTTGAACTCCTGGGCTCAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AATCCTCCTGCCTTGGCCTCCCAAAGTGTTGGGA-TACAGTCATGAGCCACTGCATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3441 TITITACCTIATGTAATGTGTATACTGGTAATAAATCTAGTTTGCTGCCTAAAGTTTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 32134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or file wrapper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and Antibodies
                                                                                                                                                                                                                                                                   DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Mismatches 258;
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 6763, Application US/09764891
; Publication No. US20030077808A1
; GENERAL INFORMATION:
; APPLICANT: Rosen et al.
: TILLE OF INVENTION: Nucleic Acids, Proteins, and
; FILE REFERENCE: PO006
: CURRENT APPLICATION NUMBER: US/09/764,891
; CURRENT FILING DATE: 2001-01-17
; Prior application data removed - consult PALM or
; NUMBER OF SEQ ID NOS: 10231
; SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4.0%; Score 218.8; DB 9
Best Local Similarity 61.3%; Pred. No. 2.8e-35;
Matches 444; Conservative 1; Migmatchin-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; ORGANISM: Homo sapiens
US-09-764-891-6763
                                                                                                                                                                                                                                                                                                                                                                                                          US-09-764-891-6763/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 6763
                                                                                     5360
                                                                                                                                                                               5420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3612
5300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                      g
                                                                                                                         Q
                                                                                                                                                                           ò
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                     ð
```

6

```
1838 ATGGGGACTCTTGATTTCTTTAAGGAAACTTGGGTTACCAGAGTATTTCCACAAATGCTA 4897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          - consult PALM or file
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 215; DB 10;
Pred. No. 1.3e-34;
0; Mismatches 235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and
FILE REPERENCE: PT2.3
CURRENT APPLICATION NUMBER: US/09/764,864
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM 01
NUMBER OF SEQ ID NOS: 1792
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 1698
LENGTH: 19472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1698, Application US/09764864
Patent No. US20020132753A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5498 AACTCCTGACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2154 AACTCCCGCCTCAG 2140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 3.9%;
Best Local Similarity 61.9%;
Matches 394; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-764-864-1698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-764-864-1698/C
                                                                                                                                  4958
                                                                                                                                                                                                                                                                                                                                                                                                                2393
                                                                                                                                                                                                                                                                                                                                                                                                                                        5318
                                                                                                                                                                                                                                                                                                                                                        qq
                                                  QQ
                                                                             ŏ
                                                                                                    qq
                                                                                                                              ò
                                                                                                                                                   qq
                                                                                                                                                                                ò
                                                                                                                                                                                                       PP
                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                   òγ
                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 рp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
3829
                                                                                                                                                   3747 AGGCCGAGGCAGGCAGATCACGAGGTCAGGAGATCCAGACCATCCTGGCTAACACGGTGA 3688
                                                                                                                                                                            3949 CACCTGCACTACATTATAAATATCAATTCTCAATGTATTCCACACAAAGACTGGTAC 4008
                                                                                                                                                                                                                               GTGAATGTTCATAGTACCTTTATTCACAAAACCCCAAAGTAGAGACTATCCAAATATCCA 4068
                                                                                                                                                                                                  3687 AACCCGGTCTTACTAAAAA--------TACAAAAAAATTAGTCG 3651
                                                                                                                                                                                                                                                                                                 4129 GTACAAAGGAAGAAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAAATGAAAGAGT 4188
                                                                                                                                                                                                                                                                                                                                                                                  CAGACATGAAGGAGGAGATAATGTATGCCATACGAAATTCTAGAAAATGAAAGTAAC--- 4245
                                                                                                                                                                                                                                                                                                                                                                                                         3470 ATGIGGTICTGIGGGTCGGGTGTGGGTTCTGGGGTCGGGTGTGGGTTCTGCAGACCAG 3411
                                                                                                                                                                                                                                                                                                                                                                                                                                   4246 --TTATAGTTACAGAAAGCAAATCAGGGCAGGCATAGAGGCTCACACCTGTAATCCCAGC 4303
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GIGCGGATTCTGTGTAGGTTCTGCAGGCCCAGTGTAGAGGCTCACACCTGTAATCCCAGT 3351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4483 ATTC----AGGTTCTGTATCCTGACTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAA 4537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3170 AGCTGCAGTGAGCCAAGATCGCACTACTGCACTCCAGCCTGGGTGACAGAGTAAGACCC 3111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rgrcrcaacaaaaaaaaaacaggrrcrgrrgcrgcrgaggrrrcgrcaggaagaraagac 3051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTCCTGAGCCCTTTACTTCGCAAATTCTCTGCACTTCTGCCCCGTACCATTAGGTGACA 4717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2930 rcccagtrcccagaaaaactraaaactagrarcrggagartccaagrccrtaaaagga 2871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATCACTIGIGCITICAIATCAACCACGCIGIACAGCTIGIGITGCTGGTGCTGCAGCTGCA 4837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2870 TTTTAGGTGATATGCAGGCATCTGGATGTTAGCCTGGGGTTTTGGCTGGATTCCACCTCG 2811
                                      C-aaaaaataagaagaaaattaaaaataaatggaaacaactacaagggctgttgtcc
                         GCACTGAGCAGTGCTTGCGCCACTGCACTCCAGGCTGGGTGACAGGACCAGACCTTGCCT
                                                                                                   3807 CAAAAAAAAAAAAAAAAAGGCCGGGTGCGGTGGCTCAAGCCTGTAATCCCAGCACTTTGGG
                                                                                                                           3889 TAGATGAGCTACTTAGTTAGGCTGATATTTTGGTATTTAACTTTTAAAGTCAGGGTCTGT
                                                                                                                                                                                                                                                       3650 GGCGTGGTGGCGGACGCCTGTATTCACAGCTACTCGGGAGGTTGAGGCAGGAGAATGGGG
                                                                                                                                                                                                                                                                                TCAACAAGTGAACAAATAAAAATGTGCTATATCCATGCAATGGAATACCACCTGCA
                                                                                                                                                                                                                                                                                                                                                  AATATAGTGAGACCGTATCACTACAAAAAGTTTGTTTAGTTCACCGAGCATGGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4423 TCCTGTGGGGAGGGAAGGACTGCAAAGAGGGAAGAAGCTCTGGTGGGGTGAGGTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3230 AIGCCTGTAGTCCCACCTACTCGAGAAGCTGAGATAGGGTCACCTGAGCCTGGTAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTAAGAAAAATGTGTGTAAGAAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3050 TITCCCAACAGTCCGAAGCCTAGGATATGAGGGCTGAGGAGGAGGATCAAACGGTTGCAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGACTAGGGACAAAATCCAGG
 3927
                                                                                                                                                                                                                                 4009
                                                                                                                                                                                                                                                                                  4069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4718
음
                                           qq
                       ò
                                                                       ò
                                                                                               g
                                                                                                                                                 g
                                                                                                                   õ
                                                                                                                                                                            à
                                                                                                                                                                                                g
                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 O
D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
```

```
5017
                                                                                                                                        2690 ATAAAACAAGAAATCAGCAAGCCTGCTTACCTCCAGAGACACACGGTTCCACTTACAGTA 2631
                                                                                                                                                                                                 5077
                                                                                                                                                                                                                   2630 TCTAGCTTCCTCGACTCCTTTGTTAAAATCGTGGAGTATGAACTGTGACCAGAGAAGTAA 2571
                                                                                                                                                                                                                                                                                                                                        5197
                                                                                                                                                                                                                                                                                                                                                                       2451
                                                                                                                                                                                                                                                                                                                                                                                                        5257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5317
                                                                                                                                                                                                                                                                                                                                                                                                                            2450 CAACCACTAATAAAATC---AAAGTTGTAGTAAAGACTTTATAACACATATGCCTCCTTC 2394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3;
2810 CTCAGTGATGATAGTCTGTTTTCCTGGAACATTCCTGGGTTTTAGTAGTAGTAGTGTTT
                                                                              2750 GIGCACCACTCCAGIGGGAACIGAAGCTCTTAGIAGITACATIGIAATTAAAAAAAATT
                                                                                                                 GAGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTTAGATCATTTTGACTAGTT
                                             5018 AAAAAAGCAGCAGAGTACAAAATCACACATGCAATCAGTATAATCCAAATCATGTAAATA
                                                                                                                                                                                                                                                      5078 IGTGCCTGTAGAAAGACTAGAGGAATAAACACAAGAATCTTAACAGTCATTGTCATTAGA
                                                                                                                                                                                                                                                                             2570 ATATGGAGCCGTTTTATTGAGCAGTTTCCTCCAGGGATGACGGCTGTCAGTGTGTTTCCT
                                                                                                                                                                                                                                                                                                                                                        2510 GCCAGTTTTCCAGTCCTTACTCTCTGCCTTCATTCTGTACTCTTGGCAGAGTCAGTAAC
                                                                                                                                                                                                                                                                                                                                                                                           ATTTTAAAATTTAGAGCTCTTCTATTTTTCCATAGTATTCAAGTTTGACAATGATCAAGT
                                                                                                                                                                                                                                                                                                                       5138 CACTAAGTCTAATTATTATTAGACACTATGATATTTGAGATTTAAAAAAATCTTTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5258 ATTACTCTTTTTTTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5438 GGCTAATGTTTGTATTTTAGTAGAGATGGGGGTTTCACCATGTTGGCCAGGCTGGTCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 19472;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            wrapper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
```

```
7749
                                                3334
                                                                      7692
                                                                                                                      7632
                                                                                                                                                                                                                                                                                          7337
                                                                                                                                                                    7631 ITATATTTTTAGTAGACAGAGTTTCACAATGTTGATCAGGCTGGTCAGGAACTCCTGA 7572
                                                                                                                                                                                           3455 AATGTGTATACTGGTAATAAATCTAGTTTGCTGCTAAAGTTTAAAGTGCTTTCCAATAA 3514
                                                                                                                                                                                                                                           7276 TGGGAGGTCAAGGCTGCAGTGAACTGTGGTCGCACCACTGCACTCCAGCCTGGGTGACAC 7217
                                                                                              GCCTTGGCCTCCCAAAGTGTTGGGATACAGTCATGAGCCACTGCATCTGGCCTAGGATCC 3394
                                                                                                                                             3395 ATTTAGATTAAAATATGCATTTTAAATTTTAAAATAATAGGCTAATTTTACCTTATGT 3454
                                                                                                                                                                                                                    7571 CCTCGTGATCCGCCCCCCCTCAGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCACT - 7514
                                                                                                                                                                                                                                                                                                                                            3635 CAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATAACAAAAATTAGCCGGGCAT 3694
                                                                                                                                                                                                                                                                                                                                                                                            3695 GGTGGCATGTGCCTGTGGTCCCAGCTACTAGGGGGCTGAGGCAGGAGAATCTTTGGAGCC 3754
                                                                                                                                                                                                                                                                                                                                                                                                                                          3755 CAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCCAGCCTGGGTGACAG 3814
3215 TATGTTTTTATGTTTTTGATTTTTTAAAAGACAATCTCACCCTGTTACCCAGGCTGGAG 3274
                                                                                                          7808 TITCITITCITITITITITITITITAGACGGAGTCTCACTCTGITACCCAGGCTGGG
                                            3275 IGCAGTGGTGCAATCATAGCTTTCTGCAGTCTTGAACTCCTGGGCTCAAGCAATCCTCCT
                                                           3815 GACCAGACCTTGCCTCAAAAAAATAAGAAGAAAATT 3851
                                                                                            3335
                                                                                                              9 % g
                                                              ద
                                                                                                                                                                                      oy
Op
                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                    ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                             ò
                                                                                       ò
```

Search completed: June 19, 2003, 11:34:18 Job time: 758.811 secs

		·			
		·			
	,				
	,			,	
					•

```
Human ovarian anti
Novel human secret
Human neuronal thr
Human secreted pro
Neural thread prot
Novel human diagno
                                                                                               human diagno
ovarian and/
reproductive
                                                                                                                                                                                                                                                            human secret
polypeptide
immune/haema
ORFX ORF2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ovary specif
Alzheimer's
ribosomal pr
                                                                                                                                                                                                                                                                                                                                               secreted pro
ORFX ORF3056
                                                                                                                                                                                                                                                                                                                                                                         breast speci
human diagno
                                                Human prostate spe
Human ORFX ORF3056
                                                                                    human diagno
                                                                                                                                                                                                                                                                                                                                                                                                                                                             P776P splice
prostate cDN
                                                                          c-myb-relate
                                                                                                                                     human secret
                                                                                                                                                                                                                          secreted pro
                                                                                                                                                                                                                                                                                                              neuronal thr
                                                                                                                                                                                                                                                                                                                                     1mmune/haema
                                                                                                                                                                                                                                                                                                                                                                                                 human secret
                                                                                                                                                                                                                                                                                                                                                                                                                          ovary specif
                                                                                                                                                                                                                                                                                                                                                                                                                                   prostate cDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                  prostate-spe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      splice varia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P776P splice
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human secret
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      human secret
                                                                                                                                                                                                                                                 polypeptide
                                                                                                                                                                                                                                                                                                                           Alzheimer's
                                                                                                                                                                                                                                                                                                                                                                                                             ORFX ORF2971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         zinc finger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; prostate specific nucleic acid; PSNA; prostate cancer; PSP; prostate specific protein; cytostatic; non-cancerous prostate disease; gene therapy; cancer; immunostimulant; vaccine.
                                                                                                                                                                                                                                   secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human
                                                                                    Novel
Novel
Human
                                                                                                                                                                                                                                    Human
                                                                                                                                                                                                                                                                                    Human
Human
                                                                                                                                                                                                                                                                                                             Human
Human
Human
Human
Human
                                                                                                                                                                                                                                                                                                                                                                                                 Novel
Human
                                                                                                                                                                                                                                                                                                                                                                                                                          Human
Human
Human
Human
P789P
Human
Novel
Human
                                                                                                                                                                                                                                                Human
Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human
Novel
Human
Human
                                                                                                                                                                                                                          -Inman
                                                                                                                                                                                                                                                                           Human
                                                                          Human
                                                                                                                                     Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human prostate specific protein DEX0293_107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALIGNMENTS
                                                                                                                                                                                                                                                            AAU30391
AA012925
AAM83429
AAB42504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABJ03718
AAE14726
AAG78758
                                                                                                                                                                                                                                                                                                                       AAE14727
AAM85552
                                                                                                                                                                                                                                                                                                                                                 AAG00352
AAB43292
                                                                                                                                                                                                                                                                                                                                                                         ABG65578
ABG08282
                                                                                                                                                                                                                                                                                                                                                                                                            AAB43207
                                                                                                                                                                                    AAB75337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A.
                                                                                                                                                                                                                                      ABB11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABG68738 standard; Protein; 361
                        Π
                                                  (first entry)
                                                Length
            Query
                                                                                                                                                                                                                                   WO200255735-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-JUL-2002
                                                                                                                                                                                               ABG68738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABG68738
              Result
                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                           0000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -MODEL-frame-in2p.model -DEV-xlp
-Q=00012_175523_10297/app_query.fasta_1.9493
-Q=00012_1/VSPO_ESPO_1/UG0966880/runat_14062003_175523_10297/app_query.fasta_1.9493
-Q=00012_1/VSPO_ESPO_1/UG09966880/runat_14062003_175523_10297/app_query.fasta_1.9493
-LOSPEXT=0 -UNITS-bits -START=1 -END--1 -MATRIX-blosum62 -TRANS-human40.cdi
-LIST=45 -DGOALIGN-200 -THE_ESCORES-PCT -THR_MAX=100 -THR_MIND-ALIGN-15
-UGDE-LCCAL -OUTFWI-pto -NORM-ext -HEAPSIZE-500 -MINLEN-0 -MAXLEN-20000000
-USER-US09966880_@CGN_11_632_@runat_14062003_175523_10297 -NCPU-6 -ICPU-3
-NO_MAP -LARGEQUERY NEC_SCORES-0 -WAIT -DSPBLOCK=100 -LONGLOG
-DBV_TINEOUT-120 -WARN_TIMEOUT-30 -THREADS-1 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELEXT=7
                                                                                   (without alignments)
6475.074 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A_Genesseq_101002:*

| SIDS2/gcgdata/genesseq/geneseqp-embl/AA1980.DAT:*
| SIDS2/gcgdata/geneseqg-embseqp-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1981.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1980.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1980.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1980.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1991.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1991.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1991.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1991.DAT:*
| SIDS2/gcgdata/geneseqg-embl/AA1991.DAT:*
| SIDS2/gcgdata/geneseqg/geneseqp-embl/AA1991.DAT:*
| SIDS2/gcgdata/geneseqg/geneseqp-embl/AA1992.DAT:*
                                                                                                                                                 acagacgaatacatggtcca......tcaaactcctgacctcagag 5514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT:*/SIDS2/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*/SIDS2/gcgdata/geneseqy/geneseqp-embl/AA2002.DAT:*
                                                                        ; Search time 226.945 Seconds
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd
                                               protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                908470 seqs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                               Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                    0.5
                                                                      June 14, 2003, 18:09:48
                                                                                                                                                                                 Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
                                                                                                                                                                                                                                                                                              length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                  Minimum Match 0% Maximum Match 100
                                                                                                                       US-09-966-880A-9
9659
                                                                                                                                                                        BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                     Command line parameters:
```

Post-processing:

Jatabase :

sed

Minimum DB Maximum DB

Searched:

Title: Perfect score:

sednence:

OM nucleic

Run on:

Scoring table:

diagno

pro

(first entry)

```
Human; open reading frame; ORFX; detection; cytostatic; hepatotropic; vulnerary; antipsoriatic; antiparkinsonian; nootropic; neuroprotective; anticonvulsant; osteopathic; antiarthritic; immunosuppressant; cardiant; immunostimulant; thrombolytic; antiarthritic; immunostimulant; cardiant; immunosuppressive; antidiabetic; hypotensive; dermatological; immunosuppressive; antidiahaetic; antidabetic; antidiamatory; antidiamaemic; gene therapy; cancer; proliferative disorder; hypotension; antidiamaemic; gene therapy; cancer; proliferative disorder; hypotension; neurodegenerative disorder; osteoarthritis; graft vs host disease; cardiovascular disease; diabetes mellitus; hypothyroidism; SCID; AIDS; cholesterol ester storage; systemic lupus erythematosus; infection; severe combined immunodeficiency; malaria; autoimmune disorder; asthma; allergy; aphastic anaemia; nocturnal haemoglobiluria; burn; wound; bunne damage; cartilage damage; antiinflammatory disease; coagulation;
                                                                                       Human ORFX ORF3056 polypeptide sequence SEQ ID NO:6112.
                                                                                                                                                                                                                                                                                                                                        thrombosis; contraceptive.
                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                     08-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                       AAB43292;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
      The invention relates to a new isolated prostate-specific nucleic acid

(PSNA) molecule comprising the cDNA sequences appearing as ABR87574.

ABG68701-ABG68746, or a sequence hybridising to a PSNA or which has 60% sequence homology with a PSNA. Also included are a method of determining the presence of a PSNA in a sample, a vector comprising the PSNA, a method of determining the prosence of a PSNA in a sample, a vector comprising the PSNA, a method of determining the presence of a PSNA, a method of determining the presence of a PSNA, a method of determining the presence of a PSNA, a method of determining the presence of a PSNA, a method of determining the presence of a PSNA, a method of determining the presence of a PSNA, a method of determining the presence of diagnosing and monitoring the presence of a PSNA, a patient (the kit comprising a means for determining the presence of the PSNA or PSN in a sample of a patient) and a vaccine comprising the polypeptide. The PSNA, PSNA on and anti-PSP antibody are useful for diagnosing and treating cancer in a patient (e.g. by gene therapy). The nucleic acid molecule and polypeptide are also useful as vaccines for treating cancer, particularly prostate and pSNA of the invantion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5286 TITITITGAGATGGAGTITTGGTCTTGTTGCCCATGCTGGAGTGGAATGGCATGAYCAT 5345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5406 AGATGGGATTACAGGCGCCCACCACCACTCGGCTAATGTTTGTATTTTAGTAGAGAT 5465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      266 PheLysPheAlaAspSerHisIleGlyLeuAlaPheHisPheAlaPhePhePhePhePhe 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               306 GlySerLeuGlnProProProProGlyPheLysGlnPheLeuCysLeuSerLeuProGly 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          326 SerTrpAspTyrArgArgAlaProProArgGlnAlaAsnPheCysIlePheSerArgAsp 345
                                                                                                                                                                                                           New prostate specific genes, useful for treating or diagnosing cancer, or useful as vaccines for treating cancer, particularly prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5346 AGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGT
                                                                                                                    Sun Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cafferkey R, Ali S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps:
                                                                                                                                                                                                                                                                            Claim 11; Page 207-208; 212pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-966-880A-9 (1-5514) x ABG68738 (1-361)
                                                                                                                  Recipon H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB43292 standard; Protein; 110 AA.
             27-NOV-2001; 2001WO-US44363.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.54e-30
345.50
71.88%
66.67%
                                               27-NOV-2000; 2000US-253176P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSP of the invention.
                                                                                                                Macina RA,
                                                                                                                                                                                                                                                 cancer, in a patient
                                                                                (DIAD-) DIADEXUS INC
                                                                                                                                                               WPI; 2002-557831/59.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity:
                                                                                                                                                                                N-PSDB; ABK97631
                                                                                                          Salceda S, Maci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB43292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score:
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
```

```
attipsoriatic; antiparkinsonian; notropic; neuroprotective; organizatic; antiparkinsonian; notropic; neuroprotective; osteopathic; anticonvulsant; antiarthritic; lamunosuppressant; immunostimulant; cardiant; thrombolytic; coaquiant; vasotropic; antidiabetic; hypotensive; dermatological; immunosuppressive; antidiabetic; hypotensive; dermatological; immunosuppressive; antidiabetic; hypotensive; dermatological; immunosuppressive; antidiabetic; hypotensive; dermatological; immunosuppressive; antidiabetic; hypotensive; dermatological; in antidingal; antithenmator; antidiabetic; predisposition to, or preventing or treating the presence of or predisposition to, or preventing or treating pathological conditions associated with an ORFX-associated disorder. The nucleic acids can be used to express ORFX proteins in gene therapy vectors. The proteins and nucleic acids may be used to treat cancers, proliferative disorders, neurodegenerative disorders, osteoarthritis, graft vs host disease, cardiovascular disease, diabetes mellitus, rypertension, hypothyroidism, cholesterol ester storage, systemic lupus erythematosus, severe combined immunodeficiency (SCID), AIDS, viral, bacterial or fungal infection, malaria, autoimmune disorders, asthma, allergies, aplastic anaemia, burns, wounds, bone and cartilage damage, nocturnal heemoglobinuria, antiinfilammatory disease; to enhance coagulation; to inhibit thrombosis; and as a contraceptive.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAC74446 to AAC77606 encode the proteins given in AAB40237 to AAB43397, which represent the human ORFX open reading frames 1 to 3161. The ORFX sequences have activities such as: cytostatic; hepatotropic; vulnerary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel nucleic acids and peptides derived from open reading frame X, useful for treating e.g. cancers, proliferative disorders, neurodegenerative disorders and cardiovascular disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 11; Page 5297-5298; 5507pp; English.
                                                                                                                                                                                                                                                                                                               99US-0127607.
99US-0127636.
99US-0127728.
                                                                                                                                                                                                             31-MAR-2000; 2000WO-US08621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-MAR-2000; 2000US-0540763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shimkets RA, Leach M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURA-) CURAGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2000-602362/57.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; AAC77501
WO200058473-A2.
                                                                                                                                                                                                                                                                                                               31-MAR-1999;
02-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                      05-APR-1999;
                                                                                                            05-0CT-2000
```

110 AA;

ᡣ

```
The present sequence is human c-myb-related protein. The c-myb gene is a proto-oncogene which codes for a nuclear protein expressed primarily in haematopoietic cells. c-myb-related proteins are useful for screening agents which regulate their activity. Human c-myb-related genes can be regulated to prevent or treat diseases of the haematopoietic system such as anaemias including megaloblastic, normochromic and normocytic anaemia, haemolytic disorder, thalassaemia and haemoglobinopathies. Reagents that modulate the activity of c-myb-related protein is useful for treating c-myb-related protein associated disorders. Human c-myb-related gene is also useful in diagnostic assays for detecting diseases and abnormalities related to presence of mutations in the nucleic acid sequences which encode a c-myb-related polypeptide. They are also useful in antisense therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New isolated polynucleotide encoding human c-myb-related polypeptide, for identifying reagents which modulate activity of c-myb-related polypeptide in hematopoietic diseases such as anemia and aplastic
                           /label= Unknown
/note= "Encoded by CNC of the inverse complementary
strand of the sequence shown in AAD19493"
                                                                /label= Unknown
/note= "Encoded by TAG of the inverse complementary
strand of the sequence shown in AAD19493"
54
                                                                                                                          /label- Unknown
/note= "Encoded by ANT of the inverse complementary
strand of the sequence shown in AAD19493"
55
                                                                                                                                                                                                        /label= Unknown
/note= "Encoded by TAG of the inverse complementary
strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                               __label= Unknown
/note= "Encoded by TAA of the inverse complementary
strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                                                                          /label= Unknown
/note= "Encoded by TGA of the inverse complementary
strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                                                                                                                                 /label- Unknown
//label- Throoded by TAG of the inverse complementary
strand of the sequence shown in AAD19493"
202
                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "Encoded by TAG of the inverse complementary strand of the sequence shown in AAD19493"
 strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label- Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Fig 2; 64pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-MAR-2001; 2001WO-EP03394.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-MAR-2000; 2000US-192367P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-616475/71.
                                                                                                                                                                                                                                                                                                               Misc-difference 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             202 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (FARB ) BAYER AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; AAD19493
                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                       Misc-difference
                Misc-difference
                                                                                                                                  Misc-difference
                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200172843-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-0CT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Liou J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             anemia
   5390
                                                                                                                                                                                                                                                      5450
                                                                                                                                5274 TTTTTTTTTTTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAA 5333
                                                                                                                                                                                                                                                                                                           5451 ATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTC 5510
                                                                                                                                                                                                        44 ---SerLeuProSerSerTrpAspTyrArgHisAlaProProArgGlnAlaAsnPheCys 62
                                                                                                                                                                                                                                                                                                                            Human; c-myb-related gene; thalassaemia; anaemia; haemolytic disorder; haemoglobinopathy; antisense therapy; haematopoietic system disease;
                                                                                                                                                                                       5334 TGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAA---AGCTGTCGC
                                                                                                                                                                                                                                                 5391 CTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACCTCGGCTAATGTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label- Unknown
/note= "Encoded by CNC of the inverse complementary
strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label- Unknown
/note- "Encoded by TAA of the inverse complementary
strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label- Unknown
/note- "Encoded by CCN of the inverse complementary
strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label- Unknown
/note= "Encoded by TCN of the inverse complementary
strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "Encoded by TAA of the inverse complementary strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "Encoded by TGN of the inverse complementary strand of the sequence shown in AAD19493"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= Unknown
/note= "Encoded by AGN of the inverse complementary
110
62
0
17
2
Length:
Matches:
Conservative:
Mismatches:
                                                          Indels:
                                                                          Gaps:
                                                                                                   US-09-966-880A-9 (1-5514) x AAB43292 (1-110)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAE11962 standard; Protein; 202 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label- Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human c-myb-related protein #1.
1.84e-29
334.00
76.54%
76.54%
3.46%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                          Similarity:
                                                                                                                                                                                                                                                                                                                                                                      5511 AGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aplastic anaemia.
                                                                                                                                                                                                                                                                                                                                                                                         |||
Arg 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference
                          Percent Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAE11962;
                                                                                                                                                                                                                                                                                                                                                                                                   83
                                                          Query Match:
                                            Best Local
 Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                              AAE11962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                            g
                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                           ò
```

4

Page

```
3866 TITCCATITATITITAATITITCITCTTATITITIGAGGCAAGGICTGGICCT---GIC 3810
                                                                                                                                        3809 ACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGGTCAGTGCAGCCTTGACCTCCTGGGCTC 3750
                                                                                                                                                                                        3691
                                                                                                                                                                                                                             CCGGCTAATTTTTGTT----ATAGAAACAGGGTTTTGCCCATGTTGCTCAGGCTGGTCT 3637
                                                                                                                                                       CAAAGATTCTCCTGCTCAGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCACCATGC
                                                                                                                                                                                                                                       TGAACTCCAGGGCTCAAGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; chromosome mapping; gene mapping; gene therapy; forensic;
food supplement; medical imaging; diagnostic; genetic disorder.
   202
73
8
8
21
6
  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 20; SEQ ID No 41835; 103pp; English.
                                                         Gaps:
                                                                          US-09-966-880A-9 (1-5514) x AAE11962 (1-202)
                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel human diagnostic protein #11467.
                                                                                                                                                                                                                                                                                                                                                                              ABG11476 standard; Protein; 105 AA.
                                                                                                                                                                                                                                                                                                                CGTGAGCCACCACCTGG 3558
                                                                                                                                                                                                                                                                                                                             4.32e-29
332.00
75.70%
68.22%
3.45%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31-MAR-2000; 2000US-0540217
23-AUG-2000; 2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-639362/73.
N-PSDB; AAS75663.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drmanac RT, Liu C,
                    Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200175067-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                        18-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11-OCT-2001.
                                                                                                                                                                                   3749
                                                                                                                                                                                                                             3690
                                                                                                                                                                                                                                                                       3636
                                                                                                                                                                                                                                                                                                                3576
                                                                                                                                                                                                                                                                                                                                                                                                    ABG11476;
                                             Query Match:
No.:
                                                                                                                                                                                                                                                                                                                                                                     ABG11476
             Score:
                                                                                                                                                                                                                                                                                                                                                         RESULT
 Pred.
                                                                                                                                                            g
                                                                                              ð
                                                                                                                   셤
                                                                                                                                        ò
                                                                                                                                                                                                   g
                                                                                                                                                                                  ò
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                  셤
```

```
polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polymiclectides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques for identifying expressed genes. (I) is useful in gene therapy techniques considered normal activity of (II) or to treat disease states involving to restore normal activity of (II) or to treat disease states involving and its binding partibed as against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical consorders involving aberrant protein expression or biological activity. The polypeptide and polymucleotide sequences have applications in the polypeptide and polymucleotide sequences have applications in responsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and camino acid sequences of the invention.

Comparison of agreement of data for this parent did not appear in the printed and product. Specification, but was obtained in electronic format directly from WIPO construction of the co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5367 CCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCA 5426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5427 CCACCACACTCGGCTAATGTTTGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCA 5486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5199 TTTTAAAATTTAGAGCTCTTCTATTTTCCATAGTATTCAAGTTTGACAATGATCAAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5307 GGTCTTGTTGCCCATGCTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----TTTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   105
63
12
26
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-966-880A-9 (1-5514) x ABG11476 (1-105)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel human diagnostic protein #12646.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5487 GGCTGGTCTCAAACTCCTGACCTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABG12655 standard; Protein; 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8.84e-27
311.00
68.81%
57.80%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5259 TTACTCTTTCTT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABG12655;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABG1265
         $$$$$$$$$$$$$$$$$$$$$$$$
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
```

```
Cytostatic; immunosuppressive; nootropic; neuroprotective; antiviral; antialicagic; hepatotropic; antidiabetic; antifinammatory; antiulocer; vulnerary; anticonvulsant; antibacterial; antifungal; antiparastitic; cardiant; qene, therapy; cancer; immune disorder; cardiovascular disorder;
 77 ProproArgProAlaAsnPheCysIlePheThrArgAspGlyValSerProCysCysPro 96
                                                                                                                                                                                                                                                          Human ovarian and/or breast cancer associated polypeptide SEQ ID NO 486
                                                                                                                                                                                                                                                                                                                                                                       neurological disease; infection; human; secreted protein.
                                    5487 GGCTGTCTCAAACTCCTGACCTCAGA
                                                         AA.
                                                                                                                                               ABB10980 standard; Protein; 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0220964.
2000US-0224518.
2000US-0224519.
2000US-0225213.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0179065.
2000US-0180628.
2000US-0184664.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0215135.
2000US-0216647.
2000US-0216880.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0217487.
2000US-0217496.
2000US-0218290.
2000US-0220963.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0225214.
2000US-0225266.
2000US-0225267.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0225268
2000US-0225270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0225757
2000US-0225758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0225759
2000US-0226279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0226681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-JAN-2001; 2001WO-US01345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0189874
2000US-0190076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0198123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0209467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0214886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0225447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20000S-0227009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0228924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0229513
2000US-0230437
                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200155325-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-JUL-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-JUL-2000;
14-JUL-2000;
26-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-AUG-2000;
14-AUG-2000;
18-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-SEP-2000;
05-SEP-2000;
05-SEP-2000;
06-SEP-2000;
                                                                                                                                                                                                                      11-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-MAR-2000;
17-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-APR-2000;
19-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22-AUG-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-AUG-2001.
                                                                                                                                                                                  ABB10980;
                                                                                                                                  ABB10980
                                                                                                             RESULT
                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                  polymetrase chain reaction (FRS) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The and gene mapping, and in recombinant production of (II). The polymetrase chain reaction (FRS) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polymetrase are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving (II). (II) as useful for generating antibodies against it, detecting or a food supplement. (II) and its binding partners are useful in medical magning of sites expressing (II). (I) and (II) are useful for treating a solventide and polymerclectide sequences have applications in disorders involving aberrant protein expression or biological activity. The polypeptide and polymerclectide sequences have applications in disorders involving aberrant protein expression or biological activity. The polypeptide and polymerclectide sequences have applications in disorders of other traits to assess biodiversity and to produce other types of data and products dependent on DNA and and cand sequences. ABGOOLO-BASION77 represent novel human cald sequences and for him parent directly from WIPO to the invitor int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----TTTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTT 5306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5367 CCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCGGGTAGATGGGATTACAGGCGCCCA 5426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5427 CCACCACACTCGGCTAATGTTTGTATTTTAGTAGAGTGGGGTTTCACCATGTTGGCCA 5486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5199 ITITAAAAITTAGAGCICTICTAITITICCAIAGIAITCAAGITIGACAAIGAICAAGIA 5258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5307 GGTCTTGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCT 5366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40 AlaValValAlaGlnAlaValValGlnTrpHisAsnLeuSerSerLeu------Pro 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                57 PheGlyPheLysGlnPheSerCysLeuSerLeuProSerSerTrpAspTyrArgCysPro 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20 ValLeuAlaLeuValPheLeuSerLeuPhePhePhePhePhePheLeuArgTrpSerPhe 39
                                                                                                                                                                                                                                                      New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to isolated polynucleotide (I) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       105
63
12
26
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches:
                                                                                                                                                                                                                                                                                                                                                    Claim 20; SEQ ID No 43014; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-966-880A-9 (1-5514) x ABG12655 (1-105)
                                                                                                                                                                  Tang YT;
                                30-MAR-2001; 2001WO-US08631
                                                                    2000US-0540217
2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8.84e-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        311.00
68.81%
57.80%
3.22%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5259 TTACTCTTTCTT
                                                                                                                                                                Liu C,
                                                                                                                                                                                                   2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                            (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                      N-PSDB; AAS76842
                                                                                        23-AUG-2000;
                                                                                                                                                                                                                                                                                                              biodiversity
                                                                      31-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                Drmanac RT,
11-0CT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ..
Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred.
```

g

ò 셤

ð g ð g ò

00005-0230 00005-0231 00005-0231 00005-0231 00005-0231 00005-0232 00005-0232 00005-0232 00005-0232 00005-0232 00005-0232	2000US-023423. 2000US-023424. 2000US-0234997. 2000US-023584. 2000US-0235834. 2000US-0235834. 2000US-0235834. 2000US-0236347. 2000US-023636. 2000US-023636. 2000US-023636. 2000US-023636. 2000US-023636. 2000US-023636. 2000US-023638. 2000US-023639. 2000US-023703. 2000US-023935. 2000US-023935. 2000US-023937. 2000US-024128. 2000US-024128. 2000US-024178. 2000US-024178. 2000US-024178. 2000US-024178. 2000US-024178. 2000US-024178. 2000US-024178. 2000US-024178. 2000US-024178. 2000US-024178. 2000US-024178.	000S - 024657 000S - 024657 000S - 024657 000S - 024657 000S - 024657 000S - 024667 000S - 024667 000S - 024667 000S - 024920 000S - 024920 000S - 024921 000S - 024921 00S - 024921 00S - 024921 00S - 024921 00S - 024921 00S - 024921
6. SEP - 2000; 8. SEP - 2000; 8. SEP - 2000; 8. SEP - 2000; 8. SEP - 2000; 9. SEP - 2000; 1. SEP - 2000;	21-SEP-2000; 22 25-SEP-2000; 26 25-SEP-2000; 26 26-SEP-2000; 27 27-SEP-2000; 20 29-SEP-2000; 20 20-CCT-2000; 2	NOV-2000; NOV-20
	9 9 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4

```
The invention relates to novel genes (ABA07454-ABA08224) and proteins (ABB10743-ABB10980) useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy. The genes are asolated from a range of human tissues disclosed in the specification. The nucleic acids, proteins, antibodies and (ant)agonists are useful in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast and ovarian cancer and other cancers of the adrenal gland, bone, bone marrow, breast, gastrointestinal tract, liver, lung, or urogenital; (b) immune disorders e.g. Addison's disease, allergies, autoimmune chisorders, autoimmune thyroiditis; diabetes mellitus, Crohn's disease, multiple sclerosis, rheumatoid atthritis and ulcerative collitis; (c) cardiovascular disorders such as myocardial ischaemias; (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and parasitic infections diseases such as viral, bacterial, fungal and parasitic infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5273 TTTTTTTTTTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGA 5332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5333 ATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCT 5392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New isolated ovarian and/or breast cancer related nucleic acids and polypeptides, useful for diagnosing, treating and/or preventing human diseases and disorders, particularly ovarian and/or breast cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wlpo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 11; SEQ ID NO 486; 577pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93
4
1
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-966-880A-9 (1-5514) x ABB10980 (1-93)
                                                                                                                                                                                                                                                                                                                                                      Ruben SM
                               2000US-0249264.
2000US-0249265.
2000US-0249297.
2000US-0249299.
2000US-0249300.
                                                                                                                     200005-0250391
200005-0250391
200005-025198
200005-0251479
200005-0251865
200005-0251865
                                                                                                                                                                                                                                           2000US-0251989.
2000US-0251990.
2000US-0254097.
                                                                                                                                                                                                                                                                                                                      (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                        2001US-0259678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.42e-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     309.00
76.25%
71.25%
3.20%
                                                                                                                                                                                                                                                                                                                                                   Rosen CA, Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-488786/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; ABA07691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93 AA;
                                         17 NOV - 2000;
17 NOV - 2000;
17 NOV - 2000;
17 NOV - 2000;
01 - DEC - 2000;
05 - DEC - 2000;
05 - DEC - 2000;
06 - DEC - 2000;
08 - DEC - 2000;
08 - DEC - 2000;
08 - DEC - 2000;
                                                                                                                                                                                                                                             08-DEC-2000;
                                                                                                                                                                                                                                                           08-DEC-2000;
11-DEC-2000;
                                                                                                                                                                                                                                                                                        05-JAN-2001;
                              17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score:
ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
```

```
2000US-0231243.
2000US-0231413.
2000US-0231413.
2000US-0231414.
2000US-02312081.
2000US-02312081.
2000US-0231968.
2000US-0231397.
2000US-0232398.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0246525.
2000US-0246526.
2000US-0246527.
2000US-0246528.
2000US-0246609.
2000US-0246609.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0246611.
2000US-0246613.
2000US-0249207.
2000US-0249208.
2000US-0249209.
                                                                                                                                                                                                                                           2000US-0235484.
2000US-0235834.
2000US-0235836.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20000S-0241787.
20000S-0241808.
20000S-0241809.
20000S-0241826.
20000S-024617.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0246475.
2000US-0246476.
2000US-0246477.
2000US-0246477.
2000US-0246478.
                                                                                                                                 2000US-0232400.
2000US-0232401.
2000US-0233063.
                                                                                                                                                                                          2000US-0234223.
2000US-0234274.
2000US-0234997.
2000US-0234998.
                                                                                                                                                                                                                                                                            2000US-0236327.
2000US-0236367.
2000US-0236368.
2000US-0236369.
                                                                                                                                                                                                                                                                                                                                                                                       2000US-0237040
                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0241785
2000US-0241786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0249211
                                                                                                                                                                     2000US-0233064
                                                                                                                                                                                                                                                                                                                             2000US-0236370
                                                                                                                                                                                                                                                                                                                                        2000US-0236802
                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0239935
2000US-0239937
                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0240960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0249212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0249218
2000US-0249244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0246524
                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0241221
                                                                                                                                                                                                                                                                                                                                                    2000US-0237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
 08 - SEP - 2000;

09 - SEP - 2000;

14 - SEP - 2000;

15 - SEP - 2000;

25 - SEP - 2000;

26 - SEP - 2000;

27 - SEP - 2000;

29 - SEP - 2000;

20 - CCT - 2000;

21 - SEP - 2000;

22 - SEP - 2000;

23 - SEP - 2000;

24 - SEP - 2000;

25 - SEP - 2000;

26 - CCT - 2000;

27 - SEP - 2000;

28 - CCT - 2000;

29 - SEP - 2000;

20 - CCT - 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17 NOV - 2000;
   5452
                                                                                                                                                                                                                  Human; reproductive system related antigen; reproductive system disorder;
                                            63
5393 CAGCCTCCCGGGTAGATGGGATTACAGGCGCCCCACCACCACACTCGGCTAATGTTTGTAT
              Human reproductive system related antigen SEQ ID NO: 5337
                                                                                                                      ¥
                                                                                                                    AAM96679 standard; Protein; 93
                                                                                                                                                                                                                                                                                                                                                 2000US-0179065.
2000US-0180628.
2000US-0184664.
2000US-0186350.
                                                                                                                                                                                                                                                                                                                                                                                                                      20000S-0198123.
2000US-0205515.
2000US-0209467.
2000US-0215135.
2000US-0215135.
2000US-0216647.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0217487
2000US-0217496
2000US-0218290
2000US-0220964
2000US-0224519
2000US-0224519
2000US-0225214
2000US-0225214
2000US-0225216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0225268.
2000US-0225270.
2000US-0225447.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20000S-0225757
20000S-0225758
20000S-0225759
20000S-0226279
20000S-022668
                                                                                                                                                                                                                                                                                                                                                                                                2000US-0189874
2000US-0190076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0227009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0228924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0229343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             000US-0229344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0229509
2000US-0229513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0230437
2000US-0230438
                                                                                                                                                                                                                                                                                                                          17-JAN-2001; 2001WO-US01339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0227182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0229287
                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                              cancer; gene therapy
                                                                                                                                                                                                                                                                           WO200155320-A2
                                                                                                                                                                                                                                                                                                                                               31-JAN-2000;
04-FEB-2000;
02-FEB-2000;
02-MAR-2000;
11-MAR-2000;
11-MAY-2000;
07-JUN-2000;
07-JUN-2000;
30-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-JUL-2000;
07-JUL-2000;
11-JUL-2000;
11-JUL-2000;
14-JUL-2000;
26-JUL-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22-AUG-2000;
22-AUG-2000;
22-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-SEP-2000;
06-SEP-2000;
06-SEP-2000;
                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-SEP-2000;
                                                                                                                                                                    21-NOV-2001
                                                                                                                                                                                                                                                                                                    02-AUG-2001
                                               5453
                                                                     63
                                                                                                                                           AAM96679
                                                                                            RESULT 7
                      g
                                               ò
                                                                 8
```

```
polypeptides and antibodies to the polypeptides are useful for determining the presence of or predisposition to a disease associated with altered levels of polypeptide. The polypeptides are useful for identifying agents (agonists and antaqonists) that bind to them. Cells expressing the proteins are useful for identifying a therapeutic agent for use in treatment of a pathology related to aberrant expression or physiological interactions of the polypeptide. Vectors comprising the nucleic acids encoding the polypeptides and cells genetically engineered to express them are also useful for producing the proteins. The proteins are useful in genetic vaccination, testing and the proteins are useful in genetic vaccination, testing and the proteins concrease stem cell proliferation; to regulate haematopoiesis; and in increase stem cell proliferation; to regulate haematopoiesis; and in immune suppression and/or nerve tissue growth or regeneration; immune suppression and/or stimulation; as anti-inflammatory agents; and in treatment of leukaemlas. AAU25510-AAU33304 represent the amino acid sequences of novel human secreted proteins of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5334 TGGCATGAYCATAGCTCACTGCAACCTCCACTCCTGGGTTCAAGCAAAGCTGTCGCCTC 5393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5394 AGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACTCGGCTAATGTTTGTATT 5453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 PhePhePhePhePheLeuArgTrpSerPheThrLeuValAlaGlnAlaGlyVal*** 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5454 TTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic acids encoding a range of human polypeptides, useful in genetic vaccination, testing and therapy -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5274 TITITITITITITITITITITICAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGA
                                            Human; vaccination; gene therapy; nutritional supplement;
stem cell proliferation; haematopoiesis; nerve tissue regeneration;
immune suppression; immune stimulation; anti-inflammatory; leukaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to novel human secreted polypeptides. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          107
60
2
17
17
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-966-880A-9 (1-5514) x AAU31902 (1-107)
          Novel human secreted protein #2393.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 20; Page 524; 765pp; English.
                                                                                                                                                                                                                                                                                                                                                                              RT;
                                                                                                                                                                                                                                                                                18-APR-2000; 2000US-0552929 26-JAN-2001; 2001US-0770160
                                                                                                                                                                                                                                          16-APR-2001; 2001WO-US08656
                                                                                                                                                                                                                                                                                                                                                                            Tang YT, Liu C, Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          308.00
77.50%
75.00%
3.19%
                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2001-611725/70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity:
                                                                                                                                                                                                                                                                                                                                        (HYSE-) HYSEQ INC.
                                                                                                                                                                WO200179449-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similari
                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores:
                                                                                                                                                                                                    25-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match:
                                                  Human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No.:
            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5273 TITITITITITITITITITITITIGAGAIGGAGTITITGGTCTIGITGCCCATGCTGGAGTGGA 5332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACCACGCTAATGTTTGTAT 5452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5333 ATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCT 5392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43 uSerLeuLeuSerSerTrpAspTyrArgHisThrProProHisAlaAlaAsnPheCysIl 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5453 TITIAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTC 5510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present invention provides the protein and coding sequences of a number of human reproductive system related antigens. These can be used in the prevention and treatment of reproductive system disorders, including cancer. The present sequence is a protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Isolated nucleic acid molecule encoding a reproductive system antige
is used in preventing, treating or ameliorating a medical condition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 11; SEQ ID NO 5337; 1297pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93
4
1
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-966-880A-9 (1-5514) x AAM96679 (1-93)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Æ
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ruben SM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein; 107
17-NOV-2000; 2000US-0249245.
17-NOV-2000; 2000US-0249264.
17-NOV-2000; 2000US-0249265.
17-NOV-2000; 2000US-0249297.
17-NOV-2000; 2000US-0249300.
17-NOV-2000; 2000US-0249300.
01-DEC-2000; 2000US-0250105.
01-DEC-2000; 2000US-0251030.
05-DEC-2000; 2000US-0251888.
05-DEC-2000; 2000US-0251856.
08-DEC-2000; 2000US-0251856.
08-DEC-2000; 2000US-0251869.
08-DEC-2000; 2000US-0251869.
                                                                                                                                                                                                                                                                                                                                                                                              (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                          2001US-0259678
                                                                                                                                                                                                                                                                                                                  2000US-0251990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.42e-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              309.00
76.25%
71.25%
3.20%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                  Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-465570/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAU31902 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; AAL02649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                  08-DEC-2000;
                                                                                                                                                                                                                                                                                                                                      11-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                      05-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                  Rosen CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAU31902;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAU31902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score:
```

ð g g

ð

a

용

ð

```
ò
                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to 2175 novel human ovarian antigens (ABP41054-CC ABP43228) and to cDRAs encoding them (ABD54131-ABD56305), and also encompasses polypeptides 90% identical and polynucleotides 95% identical comprision additionally relates to recombinant vectors and host cells comprising human ovarian antigen correctives antibodies against human ovarian antigens, and host cells comprising human ovarian antigen polynucleotides and polypeptides in diagnosing, treating, prognosing or preventing various ovary and/or breast-related disorders. Such conditions include ovarian cancer and breast cancer, and metastatic tunnours of ovarian or breast origin, reproductive system clisorders (e.g., infertility, disorders origin, reproductive system disorders, infections (e.g., chlamydia, HIV, toxoplasmosis, and toxic opolycystic ovary syndrome, ovarian cysts, and dysmenorrhoea), endocrine clisorders, infections (e.g., chlamydia, HIV, toxoplasmosis, and toxic shock syndrome), inflammatory conditions (e.g., mastitis, oophoritis and vagintis), immune disorders (e.g., congenital and acquired immunodeficiencies, autoimmune oophoritis, systemic lupus erythematosus), crepiratory disorders (e.g., anaemia), cardiovascular disorders.

Colond-related disorders, ourcloqical disorders, gastrointestinal disorders and urinary system disorders. Ovarian antigen polypeptides and conditions may also be used in screening for compounds which modulate ovarian antigen expression or activity. The polynucleotides may also gene therapy, chromosome mapping, in the individuals and in forensic analysis, and the polynucleotides may be used as food additives or to prepare antibodies cuseful in disease diagnosis, drug targeting and phenotyping. The present
                                                                                                                                                                                                    ovarian cancer; breast cancer; tumour; reproductive system disorder; infertility; pregnancy disorder; anovulation; polycystic ovary syndrome; PCOS; ovarian cyst; dysmenorrhoea; endocrine disorder; infection; inflammatory condition; immune disorder; blood disorder; cardiovascular disorder; respiratory disorder; neurological disorder; gastrointestinal disorder; urinary system disorder; drug screening; gene therapy; chromosome mapping; forensic analysis; antibody preparation; cytostatic; immunomodulatory; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    useful in disease diagnosis, drug targeting and phenotyping. The present sequence represents a human ovarian antigen of the invention. Note: The sequence data for this patent did not form part of the printed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Isolated nucleic acid molecules encoding novel ovarian polypeptides, useful in the prevention, treatment and diagnosis of cancer (e.g. ovarian cancer), immune disorders, cardiovascular disorders and
                                                                                                                                                                                       Human; ovarian antigen; ovary; ovarian; breast; cancer; tumour;
                                                                                                                                                                                                                                                                                                                                                          antiinflammatory; gynaecological; reproductive.
                                                                                                                                                  Human ovarian antigen HSPSI60, SEQ ID NO: 2684.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 11; SEQ ID No 2684; 2922pp; English.
                                   ABP41552 standard; Protein; 110 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-JUN-2000; 2000US-209467P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-JUN-2001; 2001WO-US18569
                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             neurological diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Birse CE, Rosen CA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2002-147878/19.
N-PSDB; ABQ54629.
                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200200677-A1.
                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                           22-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-JAN-2002,
                                                                          ABP41552;
                 ABP41552
RESULT
```

```
3758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3645
                                                                                                                                                                                                                                                                                         --- CTTCTTATTTTTGAGGCAAGGTCTG 3818
                                                                                                                                                                                                                                                                                                                                                                                                                                                3757 CTGGGCTCCAAAGATTCTCCTGCCTCAGCCCCCTA-GTAGCTGGGACCACAGGCACATGC 3699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleic acids encoding a range of human polypeptides, useful in genetic vaccination, testing and therapy -
specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22 ---LeuSerProArgLeuGluCysSerGlyMetIleSerAlaHisCysArgLeuTyrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3644 GCTGGTCTTGAACTCCAGGGCTCAAGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGG
                                                                                                                                                                                                                                                                                                                 3817 GTCCTGTCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3698 CACCATGCCCGGCTAATTTTTGTT-----ATAGAAACAGGGTTTTGCCATGTTGCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; vaccination; gene therapy; nutritional supplement;
stem cell proliferation; haematopoiesis; nerve tissue regeneration;
immune suppression; immune stimulation; anti-inflammatory; leukaemia.
                                                                                                                110
72
7
22
9
                                                                                                                                                    Conservative:
Mismatches:
Indels:
                                                                                                                Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3584 ATTACAGGCGTGAGCCACACACCTGG 3558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     101 IleThrGlyValSerHisCysThrTrp 109
                                                                                                                                                                                                                                                   (1-110)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel human secreted protein #2216.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU31725 standard; Protein; 175 AA.
                                                                                                                                                                                                                                                     US-09-966-880A-9 (1-5514) x ABP41552
                                                                                                                                                                                                                                                                                           3865 TTCCATTTATTTTAATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drmanac RT
                                                                                                        2.66e-26
307.00
72.48%
66.06%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-APR-2001; 2001WO-US08656.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-APR-2000; 2000US-0552929.
26-JAN-2001; 2001US-0770160.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-611725/70.
                                                            AA;
                                                                                                                                                                          Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rang YT, Liu C,
                                                            110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200179449-A2.
                                                                                                                                                      Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-DEC-2001
                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-OCT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAU31725;
                                                            Seguence
                                                                                                                                                                                             Query Match:
                                                                                                                                                                            Best Local
                                                                                                                      ..
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU31725
```

```
The invention relates to novel human secreted polypeptides. The polypeptides and antibodies to the polypeptides are useful for determining the presence of or predisposition to a disease associated with altered levels of polypeptide. The polypeptides are also useful for with altered levels of polypeptide. The polypeptides are also useful for identifying agents (agonists and antagonists) that bind to them. Cells expressing the proteins are useful for identifying a therapeutic agent physiological interactions of the polypeptide. Vectors comprising the nucleic acids encoding the polypeptides and cells genetically from proteins are useful in genetic vaccination, testing and can be used as nutritional supplements. They may be used to increase stem cell proliferation; to regulate haematopoiesis; and in bone, cartilage, tendon and/or nerve tissue growth or regeneration; in treatment of leukaemias. AAU39510-AAU33304 represent the amino acid sequences of novel human secreted proteins of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5274 TITITITITITITITITITGAGAIGGAGTTTIGGTCTIGTTCCCAIGCTGGAGTGGA 5333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5394 AGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACACTCGGCTAATGTTTGTATT 5453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; cytokine; cell proliferation; cell differentiation; growth factor; haematopoiesis regulation; tissue growth; immunomodulator; activin; billibin; chemotaxis; chemokinesis; thrombolysis; oncogenesis; proliferation; matestasis; cancer; tumour; haematopoietic disorder; proliferation; anterial sorder; lymphoid cell disorder; asthma; arthritis; atherosciencisis; coronary heart disease; arterial ischaemia; bone disorder; osteoporosis; vascular growth disorder; tissue regeneration; wound healing; infection; immune disorder; activities; antiaste argument disorder; antiastic; antiathritic; haemostatic; antiarteriosclerotic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5334 TGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5454 TTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human neuronal thread protein homologue, SEQ ID NO:1834.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   175
59
3
18
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-966-880A-9 (1-5514) x AAU31725 (1-175)
Claim 20; Page 501; 765pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABB11464 standard; peptide; 241 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4.44e-26
306.00
76.54%
72.84%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      175 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5514 G 5514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 107 p 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABB11464;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Si
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ..
O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABB11464
\overset{\mathsf{A}}{\times}\overset{\mathsf{A}}{\times} \overset{\mathsf{A}}{\times} \overset{\mathsf{A}}{\times}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       合
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
```

87

```
Sequences ABB10981-ABB12330 represent 1350 novel human polypeptides, and sequences ABA08255-ABA09574 represent nucleic acids encoding them. The sequences ABA08255-ABA09574 represent nucleic acids encoding them. The invention also relates to vectors and recombinant host cells comprising a nucleotide of the invention, methods of producing the novel polypeptides. C antibodies against the polypeptides, methods of detecting the nucleotides or polypeptides in a sample, and methods of identifying compounds which in the polypeptides of the invention. Although novel, many of the properties in the invention. Although novel, many of the giving an insight into their probable biological activities, and hence of polypeptides of the invention. Although novel, many of the have various activities; including cytckine, cell proliferation or cell or prepetition activities; stem cell proving activity; immunomodulatory activity; tissue growth activity; immunomodulatory activity; acroer or inhalbin-related activities, in amy be incompleted activities; nemmodulatory activities; raceptor or inhalbin-related activities; continuous or arthritis), and inhalbin on their biological activities; polypeptides and nucleotides of conditions, e.g., by protein or gene therapy. Such conditions inschemal when a second activities in activities in a disorders (e.g., asthma or arthritis), chronic inflammatory conditions (e.g., asthma or arthritis), arterial ischemia, bene disorders (e.g., myslooid or lymphoid call capaning them) may be used in the treatment of viral, benefice or inflamous disorders (e.g., asthma or arthritis may activities may be used in the treatment of v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     that can be used to augment or replace cells damaged by illness, autoimmune disease or accidental damage. The polypeptides and nucleotides may also be used in the diagnosis of the above conditions, and in drug screening techniques. The present sequence represents a novel human polypeptide of the invention.
cytostatic; osteopathic; vasotropic; cardiant; virucide; antibacterial; antifungal; vulnerary; antiulcer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human proteins and DNA encoding sequences useful for preventing, treating or ameliorating a medical condition in a mammalian subject e.g. arthritis and cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
59
3
20
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 20; Page 194; 1963pp; English.
                                                                                                                                                                                                                                                                                                                                                      Tang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                 05-FEB-2001; 2001WO-US03800.
                                                                                                                                                                                                                                           03-FEB-2000; 2000US-0496914.
27-APR-2000; 2000US-0560875.
                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2001-457740/49.
N-PSDB; ABA08708.
                                                                                                                                                                                                                                                                                                              (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                           WO200157188-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                 Homo sapiens.
                                                                                                                                                       09-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
```

Indels:

```
Length:
                                                                                                                                                                                                                                                                                                                                                US-09-966-880A-9 (1-5514) x AAB75337 (1-76)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAR95913 standard; Protein; 397 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94US-0340426.
                                                                                                                                                                                                        sequences of the invention.
                                                                                                                                                                                                                                                                          304.00
74.03%
72.73%
3.15%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GEHO ) GEN HOSPITAL CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Neural thread protein.
                                                                                                                                                                                                                                                                                                   Best Local Similarity:
                                                                                                                                                                                                                                76 AA;
                                                                                                                                                                                                                                                                                        Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           409615272-A1.
                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-NOV-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-NOV-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-MAY-1996.
                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR95913;
                                                                                                                                                                                                                                                                                                                 Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 13
                                                                                                                                                                                                                                                                             Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                        Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                5384 CTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACACTCGGCTAA 5443
                                             5264 CTTTCTTTTTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGC 5323
                                                                                        5324 TGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAG 5383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This invention relates to polynuclectide sequences AAF63789 - AAF63836 which encode human secreted proteins AAB75260 - AAB75287. Included in the invention are protein sequences AAB75288 - AAB75341 which are fragments of the secreted proteins and amino acid sequences with which these fragments share homology. Examples of the activities of the proteins and polynucleotides and the activities of their agonists and antagonists include, immunosuppressive; antiarthritic; antirheumatic;
                                                         Human; Immunosuppressive; antiarthritic; antirheumatic; nootropic; antiproliferative; cytostatic; cardiant; vasotropic; cerebroprotective; neuroprotective; antibacterial; virucide; fungicide; ophalmalogical; vulnerary; autoimmune disease; hyperproliferative disorder; cancer; cardiovascular disorder; cerebrovascular disorder; infection; nervous system disorder; ocular disorder; chemotaxis; food additive; secreted protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nucleic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's and Parkinson's diseases and cancers -
                                                                                                                                                                                                                                                                                                                                                                     Human secreted protein sequence encoded by gene 47 SEQ ID NO:156.
 0
  Gaps:
                     US-09-966-880A-9 (1-5514) x ABB11464 (1-241)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Komatsoulis GA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 104; 530pp; English
                                                                                                                                                                                                                                                                                                AAB75337 standard; Protein; 76 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0138632.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-JUN-2000; 2000WO-US15135.
                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                             5504 TGACCTC 5510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rosen CA, Ruben SM,
                                                                                                                                                                                                                                           1111111
224 oAspLeu 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-071257/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ROSEN C A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; AAF63835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200077021-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens.
                                                                                                                                                                                                                                                                                                                                              03-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-DEC-2000.
                                                                                                                                                                                 5444
                                                                                                                                                                                                                                                                                                                       AAB75337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ROSE/)
                                                                                                                                                                                                                                                                            RESULT 12
                                                                                                                                                                                                                                                                                      AAB7533
DB:
                                                                                                                                                                                                                                                                                                   à
                                                                g
                                                                                        ò
                                                                                                            g
                                                                                                                                    à
                                                                                                                                                       g
                                                                                                                                                                                ò
                                                                                                                                                                                                     g
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                               g
```

```
notropic; neuroprotective, antibacterial; variable; fungleide; contropic; neuroprotective; antibacterial; virucide; fungleide; copthalmalogical; and vulnerary activity. The protein and polynucleotide sequences, their agonsists and antagonists may be useful for treating, preventing and diagnosing diseases and disorders such as autoimmune diseases e.g. rheumatoid arthritis, hyperproliferative disorders e.g. cardiac arrest, cerebrovascular disorders e.g. cerebral isorders e.g. cardiac arrest, cerebrovascular disorders e.g. cerebral isohaemia, angiogenesis, nervous system disorders e.g. Alzheimer's disease, infections caused by bacteria, viruses and fungl and ocular disorders e.g. corneal infection. The polypeptides can also be used to aid wound healing and epithelial cell proliferation, to prevent skin aging due to sunburn, to maintain organs before transplantation, for supporting cull culture of primary tissues, to regenerate tissues and in chemotaxis. The polypeptides can also be used as a food additive or preservative to increase or decrease storage capabilities. Included in the invention are oligonucleotides AAF63780 - AAF63780 and peptide AAB75239 which are used in the identification and characterisation of the DNA and protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5342 YCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCC 5401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5402 GGGTAGATGGGATTACAGGCGCCCACCACCACACTCGGCTAATGTTTGTAGTAG 5461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
cerebroprotective
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alzheimer's disease; neuroectodermal tumour; malignant astrocytoma; monoclonal antibody; binding fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5462 AGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          76
1
1
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Neural thread protein; NTP; diagnosis; detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels:
```

```
The invention relates to isolated polynucleotide (I) and
                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel human diagnostic protein #12787
                                                                                                                                                                                                                                                                                                                                                                           ABG12796 standard; Protein; 211 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0540217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tang
                                                                                                                                                                                                                                                                                                                 3573 GAGCCACCAC 3564
                                                                                                                                                                                                                                                                                                                               391 lThrProHis 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2001-639362/73.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AAS76983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200175067-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                   18-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Drmanac RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11-OCT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                ABG12796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                                                                                                                                                         RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI;
                                                                                                                                                                                                                                                                                                                                                                   ABG12796
                           ò
                                             Db
                                                                   Qγ
                                                                                       Q
                                                                                                          δ
                                                                                                                             q
                                                                                                                                                   δ
                                                                                                                                                                    g
                                                                                                                                                                                          δy
                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                       4340
                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGTICTAGCAATCTTCCCA-CGTGGCCTCTCAAAGTGCTGGGATTACAGGTGTGAGCCT 4281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1280 CTATGCCTGCCCTGATTTGCTTTCTGTAACTA-----TAAGTTACTTTCATTTTCT 4230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4229 AGAATTICGIAIGG-----CATACATTATCTCCTCCTTCATGTCTGACTCTTTCATTA 4176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4115 TCCATTGCATGGATATAGCACATTTTGTTTATTTGTTCACTTGTTGATGGATATTTGGAT 4056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3997
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ||||
|GluLeuLysGlnSerThrCysLeuSerLeuProLysCysTrpAspTyrArgArg--Alaa 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    154 spGluValGlnTrpCysAspHisSerSerLeuGlnProSerThrLeuArgSerSerlle- 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----GTGTGGATAT 3987
                                                                                                                                                                                                                                                                                                                                                                        215
                                                                                                                    A method for detecting the presence of neural thread protein (NTP) having a molecular weight of 8, 14, 17, 21, 26 or 42 kD in a human subject comprises (a) contacting a sample from a human subject that is suspected of containing the NTP with at least one molecule molecule of binding to the protein; and (b) detecting any of the molecule bound to the protein. The binding molecule is selected from an antibody free of natural impurities, a monoclonal antibody or a binding fragment of either of these. The method may be used for tumours and a malignant astrocytoma in a human.
                                                                                                                                                                                                                                                                                                                                                                                                 ----ATTTTTGTGGAGAATGGAGTTTCACTGTGTTGCCCAGGCTGGTCTTGAACTCCT
                                                                                                                                                                                                                                                                                                                                                                                                              97 AlaAsnPheCysGlyArgAsnArgValSerLeuWetCysProSerTrpSer----Pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --GlyThrLysAspMetHisHisTyrThrTrpLeulle------PhellePhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----IlePheAsnPheLeuArgGlnSerLeuAsnSerValThrGlnAlaGlyValG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGTCATGACTTTGGGATTCATCCCCAAGTAGCTTCTTCTTCTTGTACTGCAGGGTGGTAT
                                                           Detection of neural thread protein in diagnosis of Alzheimer's disease – also NTP DNA and protein sequences used in gene and
                                                                                                                                                                                                                                                                                                                                                        397
123
31
114
80
                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4055 AGTCTCTACTTTGGGGTTTTGTG-------
                                                                                                                                                                                                                                                                                                 Mismatches:
Indels:
                                                                                                Claim 22; Page 171-172; 238pp; English.
                                                                                                                                                                                                                                                                                                                      Gaps:
                                                                                                                                                                                                                                                                                                                                   US-09-966-880A-9 (1-5514) x AAR95913 (1-397)
                                                                                                                                                                                                                                                               1.16e-25
304.00
44.51%
35.55%
3.16%
            Wands
                              1996-259865/26
                                                                              anti:sense therapy
                                                                                                                                                                                                                                    397 AA;
                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                       N-PSDB; AAT27738
           Ś
          LA MONTE
                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                 4393
                                                                                                                                                                                                                                                                                                                                                                                                                                         4339
                                                                                                                                                                                                                                                                                                                                                                                                                                                            115 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3996
                                                                                                                                                                                                                                                                                                       Query Match:
DB:
          9
                                                                                                                                                                                                                                                                          Score:
g
                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
```

```
3926 AAATACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGCTCTTTGTAGTTG 3867
                                                                                                                                                                                                                                                              3866 TITCCATTTATTTTTAATTTTTCTTCTTATTTTTTGAGGCAAGGTCTGGTCCTGTCACC 3807
                                                                                                                                                                                                                                                                                                                                                                     3806 CAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAA 3747
235 roSerLeuLeuSerSerTrpAspTyrArgArgProProArgLeuAlaAsnPhePheValP 255
                                                                                                                  275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3746 AGATTCTCCTGCCTCAGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCACCATGCCCG 3688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3633 ACTCCAGGGCTCAAGCGATCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGT 3574
                                                                                                                                                                                                                            294
                                                                                                                                                                                                                                                                                                                294 laArgPro-IlePheAsnPheCys-----LeuPheGluMetGluSerHisSerValThr 311
                                                                                                                                                                                                                                                                                                                                                                                                    351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        391
                                                  3986 ACATTGAGAATTGATATTTTAATAATGTAGTGCAGGTGACAGACCCTGACTTTAAAAGTT
                                                                                   :::::
255 heLeuvalGlumetGlyPheHisHisValArgGlnvalAspAlaArgSerLeuAspLeuV
                                                                                                                                                                                                           275 allleCysLeuProArgProProLysValLeuGlyLeu---GlnAspValThrProThrA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3687 GCTAATTTTTGTT-----ATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 20; SEQ ID No 43155; 103pp; English
```

```
polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapphing, and in recombinant production of (II). The conjuncted the reaction of (II) is useful in gene therapy techniques for far identifying expressed genes. (I) is useful in gene therapy techniques or restore normal activity of (II) is useful in gene therapy techniques (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful in medical imaging of sites expressing (II). (I) and (II) are useful in medical imaging of sites expressing protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in the produce other types of data and products dependent on DNA and and to produce other types of data and products dependent on DNA and diagnostic amino acid sequences of data and products dependent on DNA and diagnostic amino acid sequences of the invention.

Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5280 TTTTTTTTTTTTTTG-----AGATGGAGTTTTGGTCTTGTTGCCCCATGCTGGAGTG 5330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           132 PhePhePhePheLeuArgArgArgThrGluSerCysSerValAlaGlnValGlyVal 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; 5' \mathrm{EST}; expressed sequence tag; secreted protein; \mathrm{cDNA} isolation; gene therapy; \mathrm{chromosome} mapping.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5220 TATITITCCATAGIATICAAGITIGACAAIGAICAAGIATIACTCITITITITITIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACACTCGGCTAATGTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5451 ATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCT 5504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                211
57
5
33
33
                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                       ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human secreted protein, SEQ ID NO: 7870.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-966-880A-9 (1-5514) x ABG12796 (1-211)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAG03789 standard; Protein; 112 AA
                                                                                                                                                                                                                                                                                                                                                                                                                              2.15e-25
300.50
63.27%
58.16%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                             Sequence 211 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EP1033401-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAG03789;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAG03789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score:
       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
```

21-FEB-2000; 2000EP-0200610.

```
3675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3674 -----ATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCA 3621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3620 AGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCACCACACC 3561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27
                                                                                                                                                                                                                                                                                              The present sequence is a polypeptide encoded by one of a large number of 5' ESTs derived from mRNAs encoding secreted proteins. The 5' ESTs were prepared from total human RNAs or polyA+ RNAs derived from 30 different tissues. EST sequences usually correspond mainly to the 3' untranslated region (UTR) of the mRNA because they are often obtained from oligo-dT primed cDNA libraries. Such ESTs are not well suited for isolating cDNA sequences derived from the 5' ends of mRNAs and even in those cases where longer cDNA sequences have been obtained, the full 5' UTR is rarely included. 5' ESTs are derived from mRNAs with intact 5' ends and can therefore be used to obtain full length cDNAs and genomic DNAs. 5' ESTs are also used in diagnostic, forensic, gene therapy and chromosome mapping procedures. They are used to obtain upstream regulatory sequences and to design expression and secretion vectors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3853 TTAATTTTTCTTCTTATTTTTTGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3793 AGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3733 TCAGCCCCCTA-GTAGCTGGGACCACAGGCACATGCCACCATGCCCGGCTAATTTTTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 ValValValValValValValLeuArgGlnSerLeuAlaLeuLeuProArgLeuGluCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ||||||||
|SerAlaSerGlnValAlaArgThrThrGlyMetCySHisHisThrGlnLeuIlePheVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New nucleic acid that is a 5' expressed sequence tag (5' EST) for obtaining cDNAs and genomic DNAs that correspond to 5'ESTs and for diagnostic, forensic, gene therapy and chromosome mapping procedures
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
                                                                                           Duclert A, Giordano J;
                                                                                                                                                                                                                                                                Claim 13; SEQ ID 7870; 71pp + CD-ROM; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-966-880A-9 (1-5514) x AAG03789 (1-112)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Search completed: June 14, 2003, 18:25:52
Job time: 248.945 secs
                 99US-0122487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   298.00
73.08%
66.35%
3.10%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3560 TGGCTGTCTG 3551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    107 oGlyArgLeu 110
                                                                                           Dumas Milne Edwards J,
                                                                                                                               WPI; 2000-500381/45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 112 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity:
                                                                                                                                                   N-PSDB; AAC03795
                                                   (GEST ) GENSET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
               26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
```

		,		
·			,	
				•

```
(without alignments)
6680.033 Million cell updates/sec
                                                                                                                                                                                               US-09-966-880A-9
9659
1 acagacgaatacatggtcca......tcaaactcctgacctcagag 5514
                                                                                                                    ; Search time 158.707 Seconds
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                             OM nucleic - protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                    283224 seqs, 96134422 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                    0.5
                                                                                                                  June 14, 2003, 18:12:33
                                                                                                                                                                                                                                                                                               Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                 BLOSUM62
                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                    Perfect score:
                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                    Run on:
```

## Command line parameters:

Database :

PIR\_73:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

		#P				
Result No.	t . Score	_	Query Match Length DB	DB	ID	Description
	1 46	7 4.8	613	4	C40201	artifact-warning s
Ü	2 44	15 4.6	_	4	F40201	artifact-warning s
	3 42	4.4	673	4	F40201	artifact-warning s
Ü	4 407.	Ī		4	C40201	artifact-warning s
	5 342.			4	E40201	artifact-warning s
Ī	6 332.			4	A40201	artifact-warning s
υ	7 325			4	E40201	artifact-warning s
υ	8 323.			4	A40201	artifact-warning s
	9 235			4	D40201	artifact-warning s
4	0 22			7	S41044	chromosomal protei
c 1	1 223.			4	D40201	artifact-warning s
7	2 213.			~	A46010	X-linked retinopat
0	3 204.5	5 2.1	418	7	S41044	chromosomal protei
7	4 201.			4	B40201	artifact-warning s

hypothetical prote artifact warning s	₩	alpha-1C-adrenergi	alpha-1C-adrenergi	B-cell growth fact	X-linked retinopat	serine/threonine-s	thromboxane A-2 re	probable thromboxa	serine/threonine-s	decay-accelerating	transforming prote	biliary glycoprote	hypothetical prote	gene NF2 protein -	lular c	integrin beta-1 ch	gene NF2 protein -	gene NF2 protein -	gene NF2 protein -	hypothetical ORF n	probable thromboxa	Q300 protein - mou	thromboxane A-2 re	transcription fact	galactosylceramide	NADH2 dehydrogenas	NADH2 dehydrogenas	interferon alpha/b	interferon recepto
2 I38022 4 B40201		2 \$65657			·		-	-		2 A26359		2 C48078	-		2 PC4211	2 A42442	2 I54374	2 I54374	2 I54375		-		2 A53959	2 A57034	2 JC5238	_		2 A54295	2 S59501
196					100			407	841		619		169	46	342	53	39	39	46		4						ഗ	331	m
2.0	-	1.8	_	1.4	_	_	1.3	1.3	1.3	1.2	1	1.2	П	1.1	1.1	1.1	1.1	1.1	1.1	_	1	_	7	1	-	-		1.0	1.0
192 191	180.5	178.5	140.5	139.5	136.5	136	127	127	127	113	113	112.5	112.5	109	107	104.5	103	103	103	101	99.5	66	66	86	97.5	97.5	97	96.5	96.5
c 15 c 16		18	c 19	20	c 21		23	24	25	56	27	c 28	53	30	c 31	32	33	c 34	35	36	37	c 38	39	c 40	41	c 42	c 43	44	45
		•	Ĭ		J	•					J	J		J	Ĭ			_			J	J		J		J	J		

## ALIGNMENTS

Foresonal communication, 1992
A; Reference number: A40201
A; Mecsasion: C40201
A; Molecule type: DNA
A; Residues: 1.613 < CLA>
B; Claverie, J.M.
Genomics 12, 838 841, 1992
A; Title: Identifying coding exons by similarity search: Alu-derived and other potential communication number: A40200; MUID:92241891; PMID:1572661
A; Contents: annotation of c; Comment: This "warning" entry is a conceptual translation in all 6 reading frames of in-frame stop codons are shown as 'X'.
C; Comment: Any significant similarity of a predicted protein sequence to a portion of c; Comment: Any significant similarity of a predicted protein sequence to a portion of C;Species: Homo sapiens (man) C;Date: 31-Mar-1992 #sequence\_revision 11-Aug-1995 #text\_change 19-May-2000 C;Accession: C40201 R;Claverie, J.M. artifact-warning sequence (translated ALU class C) - human

Length:
Matches:
Conservative:
Mismatches: Indels: 4.46e-40 467.00 33.88% 26.84% 4.83% Percent Similarity: Best Local Similarity: Alignment Scores: Query Match: Pred. No.: Score:

US-09-966-880A-9 (1-5514) x C40201 (1-613)

ò g 3622 GAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATAA---- 3676

δλ

23GlyGlnGluPheGluThtSerLeuhlaksmketAlatysProfilsPheTy****Lys* 12

```
fact-warning sequence (translated ALU class F) - human
teics: Homo sapiens (man)
te: 31-Mar-1992 #sequence_revision 11-Aug-1995 #text_change 19-May-2000
cession: F40201
cession: F40201
dead communication, 1992
ference number: A40201
cession: F40201
lecule type: DNA
sidues: 1-673 < CLA>
mics 12, 838-841, 1992
the: Identifying coding exons by similarity search: Alu-derived and other potentiference number: A40200; MUID:92241891; PMID:1572661
4724 GCTCCACAAATTGGATAAATGCATTTCTGGAAAAGACTAGGGACAAAATCCAGGCATCAC 4783
                                                                                          4784 TTGTGCTTTCATATCAACCACGCTGTACAGCTTGTGTTGTTCTCTGCAGCTGCAATGGGG 4843
                                                                                                                                                                                      4844 ACTCTTGATTTCTTTAAGGAAACTTGGGTTACCAGAGTATTTCCACAAATGCTATTCAAA 4903
                                                                                                                                                                                                                                                                                   4904 TTAGTGCTTATGATATGCAAGACACTGTGCTAGGAGCCAGAAAACAAAGAGGAGGAGAAA 4963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5024 GCAGCAGAGTACAAAATCACACATGCAATCAGTATAATCCAAATCATGTAAATATGTGCC 5083
                                                                                                                                                                                                                                                                                                                                                                             4964 TCAGTCATTATGTGGGAACAACATAGCAAGATATTTAGATCATTTTGACTAGTTAAAAA 5023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5084 TGTAGAAAGACTAGAGGAATAAACACAAAGAATCTTAACAGTCATTGTCATTAGACACTAA 5143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5144 GTCTAATTATTATTAGACACTATGATATTTGAGATTTAAAAAATCTTTAATATTTA 5203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5263
                                5264 CTTTCTTTTTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGC 5323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5384 CTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACACTCGGCTAA 5443
                                                                                                                                                                                                                                                                                                                                                                                                                             291 ------TrpValThrGlu***AspSerValSerLy 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5324 TGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAG 5383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5444 TGTT-----TGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCA 5497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          306 ----- 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             306 ----- 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 276 ------G1yG1
                                                                                                                                                                                                                                      277 yAlaCysSerGluProArg-----
                                                                                                                                                                                                                                                                                                                 284 -----SerArgHisCysThrProAla------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5204 AAATTTAGAGCTCTTCTATTTTCCATAGTATTCAAGTTTGACAATGATCAAGTATTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              306 -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5498 AACTCCTGACCTC 5510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          :|||||||
383 gThrProGlyLeu 387
                                               271 -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 2
```

Db 394 lyllethrGlyMetGly399 Oy 4616 CACATTATTTTTTTACATGAGGTATAATTTACATACAGTAAACTCCACCCATTAAG 4557	Db         399         399           Qy         4556 ATGCATAATTCTACGAATATTTTGGATGTAAACACCCCAAACTGCTACCACAGTCAGGA 4497           Db         400	4436 CCCTCCCCACAGGACAACCACTGATTTGCTTTTTTTTCCCATTTTTGTGGAGAATGG	OY 43/b AGITICACIGITICACIGITICAGACITICAGATICAGAGATICACAGGT 431/   ::	Qy 4256 IGTAACTATACTTTCATTTCTAGAATTTCGTAIGGCATACATTATCTCCTT 4197	QY 4196 CATGTCTGACTCTTTAGCGTCATGACTTTGGGATTCATCCCCAAGTAGCTTCTC 4137	478LeuGluCysSerGlyLysPhe	Qy 4016 ACATTCACGTACCAGTCTTT	PheThrMetLeulleargLeuValSerA	ю	QY         3860 TTATTTTTAATTTTTTTTTTTTTTTTTTTTTTTTTTT	Qy         3764 TGACCTCCTGGGCTCCAAAGATTCTCCTGCCTCAGCCC-CCTAGTAGCTGGGACCACAGG 3706           Db         (0.3 GlnPrOProGlyPheLysArgPheSerCysLeuCysLeuProCysSerTrpAspTyrArg 622           Qy         3705 CACATGCCCATGCCGGCTAATTTTGTTATAGAAACAGGGTTTTGCATGT 3652           (1)         (1)           (1)         (1)
A;Contents: annotation C;Comment: This "warning" entry is a conceptual translation in all 6 reading frames of c in-frame stop codons are shown as 'X'. C:Comment: Any significant similarity of a predicted protein sequence to a portion of the comment.	ment Scores: 9.59e-38 No.: 445.00 nt Similarity: 32.32% Local Similarity: 25.97% Match: 4.62%	US-09-966-880A-9 (1-5514) x F40201 (1-673)  QY 5510 GAGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGTGAAACCCCATCTCTACTAAAAAT 5451	5450 ACAAACATTAGCCGAGTGGGGGGCGCCTGTAATCCCATCTACCGGGAGGCTGAG	DD 288 AlaGlyGluSerLeuGluProArgArgLeuArgLeu&Gln***Ala-LysThrCysHisCy 307  Qy 5330 CACTCCAGCATGGCAACAAGACCCATCTCAAAAAAAAAA	5270 AAGAAAGATAATACTTGATCATTGTCAAACTTGAATACTATGGAAAAATAGAAGAGGTC	DD 334 334 Oy 5150 ATTAGACTAGACAATGACAATGACAATGTCTCTAATAATAATA 5151 Oy 5150 ATTAGACTTAGTGTCTAATGACAATGACTGTTAAGATTCTTGTGTTATTATTCCTCTAGTCT 5091	Db 334 334  Qy 5090 TTCTACAGGCACATATTACATGATTTGGATTATACTGATTGCATGTGTGATTT 5037  Db 335Gla********************************	5036 TGTA 353 heVa 4976 ACAT	Db         354	4856 AGAAATCAAGAGTCCCCATTGCAGCTGCAGCAACACCAAGCTGTACAGCTTGTACAGCTTGTACAGCTTGTACAGCTTGTACAGCTTGTACAGCTTGTACAGCTGTTGTACAGCTGTTTTGTCCTAGTTTTGTCCCTAGTCTTTTCCAGAAATGCATTTATCTTTGTCCCTAGTCTTTTCAGAAATGCATTTATCTTTTGTCCCTAGTCTTTTGTCAGAATGCATTTATCTTTTGTCCTAGTCATTATCTTTTTTTT	Db 371 alleualaHis

HisGlyProProPheLeuAlaAsnLeuCysIlePheAsnArgAspThrValSerProCys 642  TGCTCAGGCTGGTCTTGAACTCCAGGCTCAAGCGATCCACCCTCAGCCTCCCAGAG 3592  IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	oy oy	ACACAAAGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAACCCCAAAGTAGAG ::
67	Db Qy	177 rglleala***ThrGlnGlu
r40201 artifact-warning sequence (translated ALU class F) - human C:Species: Homo sapiens (man) C:Date: 31-Mar-1992 #sequence_revision 11-Aug-1995 #text_change 19-May-2000 C:Accession: F40201	d Qy Db	192 euProLeuHisSerSerArgGlyValArgAlaArgAlaTyrLeuLysAsnLysAsnLysA 212 4167 TCATGACGCTAAATGAAAGAGTCAGACATGAAGGAGAGATAATGTATGCCATACGAAAT 4226 212 laLys
	Qy Db	
	Qy Dp	4287 ACACCTGTAATCCCAGCACTTTGAGAGGCCACGTGGGAAGATTGCTAGAACTCAGGAGTT 434
Affile: identifying coding exons by similarity search: Alu-derived and other potential] Afreference number: A40200; MUID:92241891; PMID:1572661 Afcontents: annotation C:Comment: This "warning" entry is a conceptual translation in all 6 reading frames of c	Qy Dp	4347 CAAGACCAGCCTGGGCAACACTGGAAACTCCATTCTCCACAAAAATGGGAAAAAAGAA 4406           :::
codons are snown as 'A'. significant similarity of a predicted protein sequence to a portion of th	Qy Dp	4407 AGCAAATCAGTGGTTGTCTGTG
4.7e-36 Length: 673 429.00 Matches: 204 Conservative: 71 26.74\$ Mismafrches: 268	Qy Dp	4440 GGACTGCAAAGAGGGAAGAAGCTCTGGTGGGGTGAGGGTGGTGATTCAGGTTCTGTATCC 4499 
% Indels: Gaps:	Qy Dp	4500 TGACTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAAATATTCGTAGAATTATGCATCTT 4559 
<b>∀</b> – ⊓	δλ	
GAGCCCTGGAGTTCAAGACCAGCCTGACAACATGGCAAAACCCTGTTTCTATAACAA 3679 	Qy QD	4620 GAAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTGAGCCCTTTACTTGG 4679 
	Qy	4680 AAATTCTGCGCTCTGCCCGTACCATTAGGTGACAGCAC 4721   1
GCAGGAGAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCACTGCTTGCGCCACTG 3794	Qy	TAGCTCCACAAATTGG
CACTCCAGCCTGGGTGACAGGACCAGACCTTGCCTCAAAAAAATAAGAAGAAAAATTAAA 3854	Qy	4737 4737 384 pSerProAlaSerValSerArgValAlaGlyIleThrGlyMetGlyArgHisSerTrpLe 404
	Oy Oo	4738 -ATAAATGCATTTCTGGAAAGACTAGGGACAAAATGCAGGCATCACTTGTGCT 4790
CTTAGTTAGGCTGATATTTTGGTATTTAACTTTTAAAGTCAGGGTCTGTCACCTGC 3955 :::        :::         erSerGlnHisPheGlyArgProGlyGlyGlnIleThr***GlyG 137	q d	
ACTACATTATTAAAATATCAATTCTCAATGTATATCC 3992    :::   :::   :::  InGluPheGluThrSerLeulleAsnMetValLysLeuCysLeuTyr***LysTyrIleA 157	op Op	4830 CAGCIGCAAIGGGGGACICTIGATTICTTTAAGGAAACTIGGGTTAC

us-09-966-880a-9.n2p.rpr

Percent Similarity: 33.92% Conservative: 52 Best Local Similarity: 26.35% Mismatches: 221 Query Match: 4.23% Indels: 234 DB: 4 Gaps: 17 US-09-966-880A-9 (1-5514) x C40201 (1-613)	Qy 5510 GAGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGTGAAACCCCATCTACTAAAAAT 5451 	Qy 5450 ACAAACATTAGCCGAGTGTGGTGGTGGCGCCTGTAATCCCATCTACCCGGGAGGCTGAG 5391 	Qy 5390 GCGACACTTGCTTGAACCCAGGAGGTGGAGGTTGCATGAGCTATGRTCATGCCATTC 5331	Qy 5330 CACTCCAGCATGGGCAACAAGAACTCCATCTCCAAAAAAAA	Oy 5270 AAGAAAGAGTAATACTTGATCATTGTCAAACTTGAATACTATGGAAAAATAGAAGAGCTC 5211	524 "	Db 211 211	QY 5150 ATTAGACTTAGTGTCTAATGACAATGACTGTTAAGATTCTTGTGTTTATTCCTCTAGTCT 5091  1::       ::: Db 212	Qy 5090 TTCTACAGGCACATATTTACATGATTTGGATTATACTGATTGCATGTGTACT 5031	Qy 5030 CTGCTGCTTTTTAACTAGTCAAAATGATCTAAATATCTTGCTATGTTGTTCCCACATAA 4971	Db 233	233 2	Qy 4910 GCACTAATTGAATAGCATTGTGGAAATACTCTGGTAACCCAAGTTCCTTAAAGAAAT 4851	Qy 4850 CAAGAGTCCCCATTGCAGCAGCAGCAACACAGCTGTACAGGTTGATAGAA 4791	4790 AGCACAAGTGATGCCTGGATTTTGTCCCTAGTCTTTTCCAGAAAT : :::	265 9	285 9HisCysThrProAlaTrp	4685 GAATTTGCGAAGTAAAGGGCTCAGGAATTTGAATAACGTTTGCTGGCAAGAGAATTGAAA ::::::    ::::::	292ValThrGlu***AspSerValSerLysLysLysLysLysLysLysLysLysLys	Qy 4b2s CTTTTCTTACACATTATTTTTCTTACATTGAGGTATAATTTACATACA	4565 CCATTTAAGATGCATAATTCTACGAATATTTTGGATGTAAACACCCCAAACTGCTACCA :::
4875	484 eirpleuthralaalaserThrserTrpValGinAlaileLeuLeuProLeuSerProVa 4929 TGGCTAGGAGCCAGAAAACAAAGAGGAGGAGAAATCAGTGATTATGTGGGAAC	DD 504 1***LeuGlyLeuGlnAlaTrpAlaAlaIleProGly***PheMetTyrPhe*****Ar 524  Qy 4983 AACATAGCAAGATATTAGATCATTTGACTAGTTAAAAAAGCAGCAGAGTACAAAATCA 5042  C) 11 11 11 11 11 11 11 11 11 11 11 11 11	AGGAA	5103 TAMACAGAATCTTAACAGTCATTAGACACTAAGTCTAATTATTATTAG 555 G111	5163 ACACTATGATATTTGAGATTTAAAAAATCTTTAATATTTTAAAATTTAGAGCTCTTCTAT 5	556556	OY 5.2.3 TTTTCCATAGITTGAGGTTTGACATCAAGTATTACTCTTTCTTTTTTTTTT	5283 TTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATGG	5/5 ubeuCysPheCysPhe***AspArgProLeuLeu***-HisProGlyTrpSerAlaValA 5337 CATGAYCATAGCTCACTGCAACCTCCACCTCTGGGTTCAAGCAAAGCTGTCGCCTCAGC	Db 595 la-SerPhedlySerLeuGlnProGlnProProGlyPheLysArgPheSerCysLeuCys 614  Qy 5397 CTCCCGGGTAGATGGGATTACAGGCGCCCACCACACTCGGGTAATGTTTGTATTTT 5456		<pre>Qy 5457 AGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCCTCAAACTCCTGACCTCAGA 5513 :::                                   </pre>	RESULT 4 C40201	altitact waining sequence (translated Abu class C) - numan C;Specis: Homo sapiens (man) C;Date: 31-Mar-1992 #sequence_revision 11-Aug-1995 #text_change 19-May-2000 C;Accession: C40201	R;Claverie, J.M. personal communication, 1992 A;Reference number: A40201	A.Accession: C40201 A.Molecule type: DNA A.Residnes: 1-613 crta>		derived and other potenti	reading frames of	C;Comment: Any significant similarity of a predicted protein sequence to a portion of th	Alignment Scores: 8.64e-34 Length: 613 Pred. No.: 8.64e-34 Matches: 181 Score: 407.50 Matches: 181

Fri Jun 20 09:21:54 2003

Ор	325 aGly	.yval327
٥y	4505 CAGT	GATACAGAACCTGAATCACCACCTCACCCCACCAGAGCTTCTTO
. <b>q</b> 0	328	  GlnTrpArgAspLeuGlySerLeuGlnAlaProProProGlyPheMetProPheSe 346
0y	4445 CAGT	3AT
qq	346 rCys	LeuLeuArgThrTrpAspTyrArgArg)
Oy F	o 1	m 0
gg	Ω	387
S S	4349 TTGA   382 rArq	TTGAACTCCTGAGTTCTAGCAATCTTCCCACGTGGCCTCTCAAAGTGCTGGGATTACAGG 4290
δ	68	TGTGAGCCTCTATGCCTGCTTTGCTTTCTGTAACTATAAGTTACTTTCATTTTCT 4230
Dp	402 la**	:::      **AlaThrAlaProArgPhePhe
Qy	4229 AGAA	NTTTCGTATGGCATACATTATCTCCTCCTTCATGTCTGACTCTTTCATTTAGCGTCA 4170
Dp	411	::: PhePhePhePhe*******LeuArgGlnSerLeuThrLeuSerProArgLeuG 429
Qy	4169 TGAC	TGACTTTGGGATTCATCCCCAAGTAGCTTCTTCCTTTGTACTGCAGGGTGGTATTCCATT 4110
QQ	429 luCy	uCysAsnGlyGluileHisL 442
οy	4109 GCAT	SCACATTTTGTTTATTTGTTCACTTGTTGATGGATATTTGGATAG
QQ	442 euPr	euProGlyLeuCysHisSerp 449
٥y	4049 TACT	TTGGGGTTTTGTGAATAAAGGTACTATGAACATTCACGTACCAGTCTTTGTGT 3993
QQ	449 roAl	
Qy	3992 GGAT	PATACATTGAGAATTGATATTTAATAATGTAGTGCAGGTGACAGACCCTGACTTTA 3933
QQ	469 heva	i::::::::: heValPheLeuvalGluMetGlyPheCysHisValGlyGlnAla
ογ	3932 AAAG	AAAGTTAAATACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGCTCTTTG 3873
qo	484	
οy	3872 TAGT	AGTTGTTTCCATTTTTTT 3853
qq	489 laSe	
Qy	3852	TAATTTTCTTCTTATTTTTGAGGCAAGGTCTGGTCCTGTCACC 3807
qq	509 isPr	coAla*******Phephephephephe***AspArgValSerLeuCysHisP 529
Qy	3806 CAGG	CAGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCTGGGCTCCAA 3747
Ор	529 rog1	lyTrpSerAlaMetAlaArgSerArgLeuThrAlaSerSerThrSerArgValTyrA 549
Qy	3746 AGAT	AGAITCICCIGCCICAGCCCCCTAGIAGCIGGGACCACAGGCACAIGCCACCAIGCCGG 3687
Dp	549 lail	leLeuLeuProGlnProSerAlaTyrValGlyLeuGlnAlaProAlaProCysProA 569
Qy	3686 CTAA	CTAATTTTGTTATAGAAACAGGGTTTGCCATGTTGCTCAGGCTGGTCTTGA 3634
qa	569 laAs	snPheLeuTyrPhe*****LysTrpGlyPheAlaMetLeuAlaArgLeuValSerA 589
οy	3633 ACTC	ACTCCAGGGCTCAAGCGATCCACCCACCACCTCCCAGAGTGCTGGGATTACAGGCGT 3574
qq	589 snSe	erTrpProHisAspProProThrPheAlaSerGlnSerAlaGlyIleThrGlyVa 608
Qy	3573 GAGC	GAGCCACCACCACC 3561
qq	608 lser	SerHisCysThr 612

```
Cyduces: or main 1992 # Sequence_revision in may 1993 **Coression: E40201
R;Claverie, J.M.
Personal communication, 1992
A;Reference number: A40201
A;Reference number: A40201
A;Reference number: 1-597 <CLA>
R;Claverie, J.M.
Genomics 12, 838-841, 1992
A;Title: Identifying coding exons by similarity search: Alu-derived and other potentil A;Reference number: A40200; MUID:92241891; PMID:1572661
A;Contents: annotation
A;Contents: annotation
C;Comment: This "warning" entry is a conceptual translation in all 6 reading frames b in-frame stop codons are shown as 'X'.
C;Comment: Any significant similarity of a predicted protein sequence to a portion of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3846 AAAATTAAAAATGGAAACAACTACAAAGAGCTGTTGTCCTAGATGAGCTACTTAGT 3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3966 TAAAATATCAATTCTCAATGTATATCCACAAAGACTGGTACGTGAATGTTCATAGTAC 4025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4026 CTTTATTCACAAAACCCCAAAGTAGAGACTATCCAAAATATCCATCAACAAGTGAACAAAT 4085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3618 GCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATAAC 3677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3678 A-----AAAATTAGCCGGGCATGGTGGCATGTGCCTGTGGTCCCAGCTACTAGGGGGCT 3731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3732 GAGGCAG---GAGAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGCG 3788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3906 TAGGCTGATATITTGGTATTTAACTTTTAAAGTCAGGGTCTGTCACCTGCACTACATTAT 3965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----GlyGlySerProGluValGlySerLeuArgProAla 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                  E40201
artifact-warning sequence (translated ALU class E) - human
C;Species: Homo sapiens (man)
C;Species: 31-Mar-1992 #Sequence_revision 11-Aug-1995 #text_change 19-May-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22 Thr***GlyTrpGluPheGluThrSerLeuThrAsnMetGluLysProHisLeuTyr-**
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 aGluThrGlyGluAsnCysLeuAsnProGlySerLysValCysGlyGlu--IleVal---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3789 CCACTGCACTCCAGCCTGGGTGACAGGACCAGA---CCTTGCCTCAAAAAATAAGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80 ProSerTyrSerGlyLeuGlyAsnLysSerLysThrProSerGlnLysLysLys****
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4086 AAACAAAATGTGCTATATCCATGCAATGGAATACCACCCTGCAGTACAAAGGAAGAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                         597
196
60
209
305
29
                                                                                                                                                                                                                                                                                                                                                                                                                         Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---PheGlySerSerArgArg------
                                                                                                                                                                                                                                                                                                                                                                                                           Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-966-880A-9 (1-5514) x E40201 (1-597)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6.35e-27
342.50
33.29%
25.49%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100 ***AlaArg-----
                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                          Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        113
 ß
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                             Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
```

ć	4146		90
÷ 7	7 T		,
<u>a</u>	131	oThrTrpArgAsnProIleSerThrLysAsnIleLysLeuAlaGlyArgG	149
٥y	4200		4220
qq	149	lyGlyAlaCysLeu***SerGlnLeuLeuGlyArgLeuArgGlnGluArgIleAla***T	169
ογ	4221		4258
qq	169	ThrProAlaTrpAlaThrArgA	189
Οy	4259		4295
Ор	189	********ProGlyValValAlaHisAlaCysA	509
٥y	4296	ATCCCAGCACTTTGAGAGGCCACGTGGGAAGATTGCTAGAACTCAGGAGTTCAAGAC	4352
qq	209		228
oy	4353	GAAAAAAGAAAGCAAA	4412
QQ	229	GlnLeuAspGlnHisGlyGluThrProSerLeuLeuLeuLyslle***Asn***Leu	246
Qy	4413	GTCCTGTGGGGAGGGAAGGACTGCAAAGAGGGAAGAAGCTCTGGTGGGGT	4472
qq	247	GlyvalvalAlaHisAla-CysAsnProSerTyrSerGlyGly**As	262
Qy	4473	STTCTGTATCCTGACTGTGGTAGCAGTTT	4517
QQ	262	   PArgArgGluLeuLeuGluProArgLysGlnSerLeuArg***AspCysAlaIle	280
٥y	4518	CATCCAAAAATATTCGTAGAATTATGCATCTTAAATGGGTGGAGTTTACT	4577
Db	281	ValLeuArgProGly	285
Qy	4578		4637
qa	286		292
Οy	4638		4697
qq	292	::::    :::  SerLysLysLys********PhePhePhePhe***AspGlyValLeuLeuLeuLe	312
Qy	4698		4757
qa	312	uproArgProGluTyrAspGlyThrIleSerProGlnThrLeu-LeuProGlyPheLysG	332
οy	4758		4787
QQ	332	 InPheSerProValSerAlaSerArgValAlaGlyIleThrGlyMetArgHisHis	350
οy	4788		4844
Db	351		363
QY	4845		4880
qq	364	SerMetLeuValLysLeuValSerAsnSerGlnProGlnValIleArgProAlaLeuAsn	383
οy	4881	TAT	4883
QQ	384	SerGlnSerAlaGlyIleThrGlyMetSerTyrHisThrTrp*******PhePhePhe	403
Qy	4884		4943
qq	404	CysCysProGlyArg	415
Qy	4944	AAAACAAAGAGGAGGAGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTTAGAT	5003
QQ	416		429
Qy	5004	CATTITGACTAGTIAAAAAAGCAGCAGAGTACAAAATCACACATGCAATCAGTATAATCC	5063

```
Genomics 12, 838-841, 1992
Genomics 12, 838-841, 1992
A;Title: Identifying coding exons by similarity search: Alu-derived and other potenti
A;Feference number: A40200; MUID:92241891; PMID:1572661
A;Contents: annotation
C;Comment: This "warning" entry is a conceptual translation in all 6 reading frames o
in-frame stop codons are shown as 'X'.
C;Comment: Any significant similarity of a predicted protein sequence to a portion of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5450
                                                                                                                                                                                                                                                                                                                                                                                                                                                         5274 TITITITITITITITITITITGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAA 5333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5451 ATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTC 5510
                                                        5064 AAATCATGTAAATATGTGCCTGTAGAAAGACTAGAGGAATAAACACAAGAATCTTAACAG 5123
                                                                                                                                  5124 TCATTGTCATTAGACCACTAAGTCTAATTATTATTAGACACTATGATATTTGAGATTT 5183
                                                                                                                                                                                                               5184 AAAAAATCTTTAATTTTTAAAATTTAGAGCTCTTCTATTTTTCCATAGTATTCAAGTTT 5243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5334 TGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGC--- 5390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             458 SerArgAspGlyValSerProCysTrpSerSerTrpSerGlnThrProAsnLeuArg*** 477
                                                                                                                                                                                                                                                                                                                                                                                                                    478 SerAlaProPro***ThrProLysAlaLeuGlyLeuGlnAla***AlaThrThrProGly 497
                                                                                                                                                                                                                                                      .----Ser***PheTyrIlePhe 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              artifact-warning sequence (translated ALU class A) - human c;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 31-Mar-1992 #sequence_revision 11-Aug-1995 #text_change 19-May-2000 C;Accession: A40201 R;Claverie, J.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACTCGGCTAATGTTTGT
::: ||| ::||| SerSerAsnSerLeuLeuSerGlnProProGlu***LeuGlyLeuGln-
                                                                                                                                                                                                                                                                                                                                                                             5244 GACAATGATCAAGTA-----
                                                                                           446 ---AlaCysAlaThrThrPro---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      personal communication, 1992
A;Reference number: A40201
A;Accession: A40201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-627 <CLA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5511 A 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        r 575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        575
                                                                                                                                                                                                                                                        452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5391
                                                                                                                                                                          451
                                                                                       qq
                                                                                                                          Qγ
                                                                                                                                                                     QQ
                                                                                                                                                                                                               δy
                                                                                                                                                                                                                                                Dp
                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δλ
```

Length:
Matches:
Conservative:
Mismatches:
Indels:

332.50 29.47% 23.75% 3.44%

Percent Similarity:
Best Local Similarity:
Query Match:
DB:

us-09-966-880a-9.n2p.rpr

08-60-SD	966-880A	1-9 (1-5514) x A40201 (1-627)
٥y		GCTCACGCCTGTAATCCCAGCACTCTGGGAGCTGAGGTGGGTG
qq	Ŋ	SerHisAlaCysAsnProSerThrLeuGlyGlyGlyGlyGlyArglleThrArgSerG 24
οy	3630	GAGTICAAGACCAGCCIGAGCAACAIGGCAAAACCCIGITICIAIAACAAAAAI 3683
QQ	24	lyaspargasphisProGlyTyrHisGlyGluThrProSerLeuLeuLysIleGlnLysI 44
٥y	3684	TAGCCGGGCATGGTGCATGTGCCTGTGGTCCCAGCTACTAGGGGG-CTGAGGCAGGAGA 3742
Ор	44	leSerArgAla***CysGlyArgLeu***SerGlnLeuLeuGlyArgLeuArgGlnGluA 64
οy	3743	ATCTTTGGAGCCCAGGAGGTCAAGGCTGCAGGGGGGGGTGCTTGCGCCACTGCACTGCAG 3802
QQ	64	snGlyValAsnProGlyGlyAlaCysSerGluProArgSerArgHisCysThrProA 84
Qy	3803	CCTGGGTGACAGGACCAGGACCTTGCCTCAAAAAATAAAAAAAA
DΡ	84	
οy	3850	TTABABATABATG 3862
Db	104	
Qy	3863	GAAACAACTACAAAGAGCTGTTGTCCTAGATGAGCTACTTAGTTAG
qa	124	lyserArgGlyGlnGluIle 130
ογ	3923	ATTTAACITTTAAAGTCAGGGTCTGTCACCTGCACTACATTATAAAATATCAATTCTCA 3982
qq	130	130
Qy	3983	ATGTATATCCACACAAAGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAACCC 4042
QQ	131	::     
οy	4043	CAAAGTAGAGACTA TCCAAATATCCATCAACAAGTGAACAAATAAACAAAATGTGC- 4098
Db	138	
Οÿ	4099	CATGCAATGGAATACCACCTGCAGTACAAAGGAAGAAGCTA
qq	158	erProSerTyrLeuGlyGly***GlyArgArgMetAla***ThrArgGluAlaGluLeu; 177
٥y	4151	CAT
QQ	178	:::
Οy	4211	GTATGCCATACGAAATTCTAGAAAATGAAAGTAACTTATAGTTACAGAAAGCAAATCAGG 4270
Db	187	euGlnProTrpArgGlnSerGluThrProSerArgLysLysIleLysThrLysAsnLysL 207
Qy	4271	GCAGGCATAGAGGCTCACACCTGTAATCCCAGCACTTTGAGAGGCCACGTG 4321
QΩ	207	ys*******ProGlyAlaValSerArgLeu***SerGlnHisPheGlyArgProArgA 227
οy	4322	GGAAGATTGCTAGAACTCCAGGAGTTCAAGACCAGCCTGGGCAACACAGTGAAACTCCATT 4381
qq	227	rgAlaAspHis-GluValArgAsgArgSerArgProSerTrpLeuProArg***AsnProVal 246
Qy	4382	CTCCACAAAAATGGGAAAAAAAAAGAAAGCAAATCAGTGGGTTGTTGTGGGGAGGGGAAGG 4441
Ωp	247	
٥y	4442	ACTGCAAAGAGGAAAGCTCTGGTGGGGGTGAGGGTGATTCAGGTTCTGTATCCTG 4501
QQ	262	262
Qy	4502	ACTGTGGTAGCAGTTTGGGGGTGTTTACATCCAAAAATATTCGTAGAATTATGCATCTTAA 4561
qq	263	ValproAlaThrTrp 267

Qy 45	562 ATGGGTGGAGTTTACTGTATGTAAATTATACCTCAATGTAAGAAAAAATAATGTGTAAGA 4621
Dp 3	267 267
Qy 46	622 AAAGTTTCAATTCTCTTGCCAGCAAAGGTTATTCAAATTCCTGAGCCCTTTACTTCGCAA 4681
Db 2	268GluAlaGluAlaGlyGluTrpArgGluProGlyArgArgSer 281
Qy 46	682 ATTCTCTGCACTTCTGCCCCGTACCATTAGGTGACAGCACTAGCTCCACAAATTGGA 4738
Db 2	uHi
4	39 TAAATGCATTTCTGGAAAAGACTAGGGACAAAATCCAGGCATCATTGTGCTTTCATATC
	92SerSerLeuGlyAspArgAlaArgLeuArgLeu 302
Qy 47	799 AACCACGCTGTACAGCTTGTGTTGCTGTCTGCAGCTGCAATGGGGACTCTTGATTTCTTT 4858
Db 3	302 302
Ογ 48	859 AAGGAAACTTGGGTTACCAGAGTATTTCCACAAATGCTATTCAAATTAGTGCTTATGATA 4918
Dp 3	302 302
0у 49	19 TGCAAGACACTGTGCTAGGAGCCAGAAAAACAAAGAGGAGGAGA
Db 3	303
Qy 49	79 GAACAACATAGCAAGATATTTAGATCATTTTGACTAGTTAAAA
Db 3	310 314
ογ 50	039 ATCACACATGCAATCAGTATAATCCAAATCATGTAAATATGTGCCTGTAGAAAGACTAGA 5098
Db 3	314 314
0у 50	099 GGAATAAACACAAGAATCTTAACAGTCATTGTCATTAGACACTAAGTCTAATTATTAT 5158
Dp 3	314
Qy 51	159 TTAGACACTATGATATTTGAGATTTAAAAAATCTTTAATATTTTAAAATTTAGAGCTCTT 5218
Dp 3	314
Qy 52	19 CTATTTTTCCATAGTATTCAAGTTTGACAATGATCAAGTATTACTCTTTCTT
Dp 3	15 ***PheP
Qy 52	79 TITITITITITITIGAGAIGGAGITITIGGICTIGTIGCCCAIGCIGC
Dp 3	21 PheLeuPhePheSerGluThrGluSerArgSer-ValAlaLysAlaGlyValGl
Qy 53	39 IGAYCATAGCTCACTGCAACCTCCACCTGGTTCAAGCAAAGCTGTCGCCTCAGCC
Dp 3	40 g
Qy 53	99 CCCGGGTAGATGGGATTACAGGCGCCCACC
Db 3	
Qy 54	153 TITTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTC 5510
RESULT 7	
E40201 artifact-wa C;Species: 1 C;Date: 31-1 C;Accession R;Claverie,	rning sequence ( Homo sapiens (ma Mar-1992 #sequen : E40201
rsonal c	ommunication, 1992

A. McGreston and the control of the	159 lyArgleuArgdinGluArglieAla***ThrGlnGluAlaLysPheAlaValAgg 4773 GATTTTCCCTAGTCTTTCCAGAATGCATTTGCGAGTCTTGTGGAGCTAGTGCTGTC 178 -LeuCys
	0y 4276

ACAGCTTTGCTTGAACCCAGGAGGTGGAGGTTGCAGTGAGCTAT  :::	::: *Lys*******AlaGlyArgGlyLeuThrProValIleProAlaLeuTrpGluAlaLy AAGAGCTCTAAATTTTAAAATATTAAAGATTTTTTAAATCTCAAATATCATAGTGTCTAA : : salaGlyGlySe	5158 TAATAATAAGACTTAGTGTCTAATGACAATGACTGTTAAGATTCTTGTGTTTATTCC 5099  125 rArgGlyGlnGluileGluthrileLeualaThrThrValLySProArgLeuTyr**Ly 145  5098 TCTAGTCTTTGTAGGCACATATTACATGATTTGGATTATACTGATTGCATGTGTGTAT 5039  145 STYRLYSLVSLVSLUAlaGlyArg		::: :::       158 rProSerTyrLeuGlyGly***GlyArgArgMetAla***ThrArgGluAlaGluLeuAl 178   1010		GGTTGATATGAAAGCACAAGTGATGCCTGGATTTTGTCCCTAGTCTTTTCCAGAAATGCA		230 sGluValArgArgSerArgProSerTrpLeuProArg***AsnProValSerThrLysAs 250 4667 GCTCAGGAATTTGAATAACGTTTGC	uAlaGlyGluTrpArgGluProGlyArgArgSerLeuGln***AlaGluIleAlaProLe	uHisSerSerLeuGlyAspArgAlaArgLeuArgLeuGlyLysLys***LysGlnLysIl	633AATTGAAACTTTCTTACACATTATTTTTCTTACATTGAGGTATAATTTACA 	4580 TACAGTAAACTCCACCATTTAAGATGCATAATTCTACGAATATTTTGGATGATGATGATGATGATGATGATGATGAT
GTGACAGACCCTGACTTTAAAAGTTAAATACCAAAATATCAGCCTAACTAA	3831 TGAGGCAAGGTCTGGTCAGGCTGAGAGTGCAGTGCAGAACA 3/81  505		uValGluMetGlyPheLeuHisValGlyGlnAlaGlyLeuLysLeuProThrSerGlyAs 577  TCCACCCAC-CTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCACCACACTGGC 3557	556 T 3556 Db Db 1 Db 297 a 597	VY A40201 A40201 artifact-warning sequence (translated ALV class A) - human C:Species: Homo sapiens (man) C:Species: 31-Mar-1992 #sequence_revision 11-Aug-1995 #text_change 19-May-2000 C;Accession: A40201	1992 201	A; Residues: 1-627 <cla> Qy Claverie, J.M. Sclaverie, J.M. Genomics 12, 838-841, 1992 A; Title: Identifying coding exons by similarity search: Alu-derived and other potentiall A; Reference number: A40200; MUID:92241891; PMID:1572661 A; Contents: annotation</cla>	C;Comment: This "warning" entry is a conceptual translation in all 6 reading frames of c in-frame stop codons are shown as 'X'. C;Comment: Any significant similarity of a predicted protein sequence to a portion of the open continuation of the comment of the com	Alignment Scores: 6.52e-25 Length: 627 Qy  Pred. No.: 323.50 Matches: 172 Qy  Score: 31.50% Conservative: 57  Best Local Similarity: 23.66% Mismatches: 191  Ouery Match: 3.36% Indels: 310  Ouery Match: 19	ours:	OY 509 AGGTCAGGAGTTTGAGACCAGCTGGCCAACATGGTGAAACCCCATCTCTACTAAAAATA 5450 11111111	Op/Entropy         Op/Entropy           4.9 CAAACATTAGCCGAGGTGGTGGTGGTGGCGCTGTAATCCCATCTACCCGGGAGGCTGAGG         5390           11         :::::           4.2 GlnLysIleSerArqAla***CysGlyArqLeu***SerGlnLeuLeuGlyArqLeuArq         Db

qq	344 r	354
0y	09	₹
9	354 OPNESETCYSLEUSETLEUPROSETSETTTPASPTYTATGATGPTOHISTYTALAATGLE	374
0y 4		4356
qa	374 uIlePheCysllePheSerArgAspGlyValSerProTrp***ProGl	390
0y 4	355 CTGGTCTTGAACTCCTGAGTTCTAGCAATCTTCCCACGTGGCCTCTCAAAGTGCTGGGAT	4296
	330 YIIDSELAIGSELFIOASDLEU-VAILLEAIGPIOFIOIIDPIOLYSVALLEUGLYL	2 :
Qy Db	295 TACKGGTGTGAGCCTCTATGCCTGCCTGATTTGCTTTCTGTAACTATAAGTTACTTTCA                 410 eugli	4236
•	TTTTCTAGAATTTCGTATGGCATACATTATCTCCCCCTTCATGTCTGACTCTTTCATTTA	4176
qa	411	411
Oy 4	4175 GCGTCATGACTTTGGGATTCATCCCCAAGTAGCTTCTTCCTTTGTACTGCAGGTGGTAT	4116
QQ	411	411
0y 4	4115 TCCATTGCATGGATATAGCACATTTTGTTTATTTGTTCACTTGTTGATGGATATTTGGAT	4056
QQ	 412Ala**AspArgAlaArg	417
Oy 4	4055 AGTCTCTACTTTGGGGTTTTTGTGAATAAAGGTACTATGAACAITCACGTACCAGTCTTTG	3996
qa	417	417
Qy 3	3995 TGTGGATATACATTGAGAATTGATATTTTAATAATGTAGTGCAGGTGACAGACCCTGACT	3936
qa	417	417
0y 3	3935 TTAAAAGTTAAATACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGCTCT	3876
qo	417	417
Oy 3	3875 TIGTAGTICTITCCATITITITAATTITICTICTITITITIG AGGCAAGGTCIGG	3817
qa	418*********PhePheIlePheCysPheTyrPhePheProArgArgSerLeuA	435
Qy 3	816 TCCTGTCACCCAGGCTGGAGTGCAGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCC	3757
qa	435 laLeuSerProArgLeuGluCysSerGlyAlalleSerAlaHisCysLysLeuArgLeuP	455
Qy 3 Db	3756 TGGGCTCCAAAGATTCTCCTGCCTCAGCCCCCTA-GTAGCTGGGACCACAGGCA	3704 475
Oy 3	3703 CATGCCACCATGCCCGGCTAATTTTTGTTATAGAAACAGGGTTTTGCCATGTTGCTCAGG	3644
Db		495
oy 3	3643 CTGGTCTTGAACTCCAGGGCTCAAGCGATCCACCACCTCAGCCTCCCAGAGTGCTGGGA	3584
qa	:::	514
oy 3	583	
qq		
RESULT 9 D40201 artifact-w	-warning sequence (translated ALU class D) - human	
C; Species:	saniene (man)	

```
A.Wolecule type: DNA
A.Residues: 1-579 <CLA>
A.Residues: 1-579 <CLA>
B.CLA>
A.Tesidues: 1-579 <CLA>
A.Title: Identifying coding exons by similarity search: Alu-derived and other potentify. RAPERO: MUID:92241891; PMID:1572661
A.Reference number: A40200; MUID:92241891; PMID:1572661
C.Comment: This "warning" entry is a conceptual translation in all 6 reading frames of in-frame stop codons are shown as 'X'.
C.Comment: Any significant similarity of a predicted protein sequence to a portion of C.Comment: Any significant similarity of a predicted protein sequence to a portion of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3683 TTAGCCGGGCATGTGCCTGTGCCTGTCGTCCCAGCTAGGGGGCTGAGGCAGGAGA 3742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3923 ATTTAACTTTTAAAGTCAGGGTCTGTCACCTGCACTACATTAAAATATCAATTCTCA 3982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3983 ATGTATATCCACACAAAGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAACCC 4042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4043 CAAAGTAGAGACTATCCAAATATCCATCAACAAGTGAACAAATAAACAAAATGTGCTATA 4102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4103 TCCATGCAATGGAA----TACCACCCTGCAGTACAAAGGAAGATGCTACTTGGGGATGAA 4158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4159 TCCCAAAGTCATGACGCTAAATGAAAGAGTCAGACATGAAGGAGGAGATAATGTATGCCA 4218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4219 TACGAAATTCTAGAAAATGAAAGTAACTTATAGTTACAGAAAGCAAATÇAGGGCAGGCAT 4278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3633 TTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATA-----ACAAAAA 3682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3743 ATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCCAG 3802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          105 -----ValIleProAlaLeu***GluPro 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    113 -----TrpGlnValTyrAlaProAlaGlnGluPheLysAsnSerLeuGlyAsnMet 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6 HisAlaCysAsnProSerThrLeuGlyAlaMetAlaGlyValCysSer--SerSerGlyV 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ||||||::: ||| ||| ||| ||||||||||||||::
45 leSerGlnIleTrp***HisLysProValValProAlaThrGlnLysAlaGlyAlaGlyG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |||||||
85 ProGlyGlnHisThrLysThrLeuProGlu******AlaLysHis------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----GlyCysThrPro-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          112
                                                                                                                                                                                                                                                                                                                                                                                                    Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-966-880A-9 (1-5514) x D40201 (1-579)
                                                                                                                                                                                                                                                                                                                                                          1.44e-15
235.00
32.26%
24.46%
2.43%
                                   personal communication, 19
A;Reference number: A40201
A;Accession: D40201
                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
C; Accession: D40201
R; Claverie, J.M.
                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  òγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

qq	146GlySerIleSerLeu***SerGlnLeuLeuLysArgLeuGlyGlnGluAspHis 163
۵y	
qq	164 LeuThrTrpGluValLysAlaGln***AlaMetIleAlaProLeuTyrSerSerLeuGly 183
Οy	4279AGAGGCTCACACCTGTAATCC 4299
qq	184 AsnIleProArgProCysLeuLys*******ProSerMetAlaAlaArgLeu***Ser 203
Oy Db	4300 CAGCACTTTGAGAGGCCACGTGGGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCTG 4359
oy.	
QQ	
οy	4420 TIGTCCTGTGGGGAGGGGAAGGACTGCAAAGAGGAAGGAAGCTCTGGTGGGGTGAGGTG 4479
QQ	243 alAla***AlaCysSerProSerTyrSerLysGlyTrpGly-Arg 257
δλ	GTGATTCAGGTTCTGTATCCTGACTGTGGTAGCAGTTT
qo ,	
ζ, G	IG
٥٥	TAAGAAAAATAATGOGOGOAAAAAAAAAAAAAAAAAAAA
. q	
į	
5 A	**************************************
λ̈́O	
qq	ProProAla
Qy	4768AAAATCCAGGCATCACTTGTGCTTTCATATCAACCA 4803
qa	::: ::: ::: 325 ProAlaPhe***ValAlaGlyThrThrGlyLeuCysTyrGlnIleTrpLeuIlePheVal 344
Qy	STC
QQ	345 SerPhePheCysArgGlyGlyValSerThrCysCysProGlyCysSer 360
Οy	4858 TAAGGAAACTIGGGTTACCAGAGTATTTCCACAAATGCTATTCAAATTAGTGCTTATGAT 4917
qq	361***ThrProGlu 364
Qy	4918 ATGCAAGACACTGTGCTAGGAGCCAGAAACAAAGAGGAGGAGAAATCAGTCATTAT 4974
qa	::::::
٥y	4975 GTGGGAACAACATAGGAAGATATTTAGATCATTTTGACTAGTTAAAAAAGCAGCAGAGTA 5034
qa	   384 aTrp********Phe
οy	5035 CAAAATCACACATGCAATCAGTATAATCCAAATCATGTAAATATGTGGCCTGTAGAAAGAC 5094
qq	:::     ::: 394 pTyrValAlaGinAla-GjyValGinArgCysAsnHis
٥y	5095 TAGAGGAATAAACACAAGAATCTTAACAGTCATTGTCATTAGAC5138
QQ	407GlySerLeuSerLeuAspPheProGlyGlnVal1 418
٥y	5139ACTAAGTCTAATT 5151
qa	418 leLeuLeuProGlnProPheGlu***LeuGlyLeuGlnAlaTyrAlaThrArgSerGly* 438

```
5152 ATTATTATTAGACACTATGATATTTGAGATTTAAAAAATCTTTAATATTTAAAAATTTAG 521.1
                                                                                                                                                        5288
                                                                                                                                                                                                                                                                                                       5338 ATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCC 5397
                                                                         5212 AGCTCTTCTATTTTTCCATAGTATTCAAGTTTGACAATGATCAAGTATTACTCTTTTTTT 5271
                                                                                                                                                                                                                           5289 -----TITITGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGC 5337
                                                                                                                                                                                                                                                                                                                                                                                5398 TCCCGGGTAGATGGGATTACAGGCGCCCACCACACTCGGCTAATGTTTGTATTTTA 5457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3550 ACAGACAGCCAGGTG---TGG----TGGCTCACGCCTGTAATCCCAGCACTCTGGGAG 3600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3601 GCTGAGGTGGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAA 3660
                                                                                                   461 erTrpSerIleHisLeuProTrpLeuLeuLysCysTrpAspTyrArgArgAlaAlaMetL 481
                                                                                                                                                                                                                                                     3661 AACCCTGTTTCTATA-----3684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3685 AGCCGGGCATGGTGG-------CATGTGCCTGTGGTCCCAGCTACGGGGG 3729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         163 ThrGlnSerTyrvalAspTrpGlyArgTrpLeu--------IleTrpGlu 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Species: Homo sapiens (man)
C; Species: Homo sapiens (man)
C; Date: 19-may: 1994 #sequence_revision 10-Nov-1995 #text_change 21-Jan-2000
C; Accession: $41044 #sequence_revision 10-Nov-1995 #text_change 21-Jan-2000
C; Accession: $41044 #sequence revision 10-Nov-1995 #text_change 21-Jan-2000
R; Yeo, J.P.; Alderuccio, F.; Toh, B.H.
Nature: $40. 288-291, 1994
A; Title: A new chromosomal protein essential for mitotic spindle assembly.
A; Reference number: $41044; MUID: 94166884; PMID: 8121495
A; Accession: $41044
A; Molecule type: mRNA
A; Molecule type: mRNA
A; References: GB: L26953; NID: 9537529; PIDN: AAB68050.1; PID: 9537530
C; Superfamily: human 48.2K chromosomal protein
C; Keywords: chromosomal protein
                                   Trent-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                           5458 GTAG----AGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCC 5503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540 heLeu***ArgTrpGlyPheAspMetLeuProArgLeuPheLeuAsnSer 556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   418
91
32
74
132
17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                    5272 TTTTTTTTTTTTTT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-966-880A-9 (1-5514) x S41044 (1-418)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.97e-14
224.00
37.39%
27.66%
2.32%
                                   438 **Phe-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chromosomal protein - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
                                 qq
                                                                         δ
                                                                                                       qq
                                                                                                                                                δ
                                                                                                                                                                                      q
                                                                                                                                                                                                                                                             QC
                                                                                                                                                                                                                                                                                                                                          QQ
                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                       ^{\circ}
                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                  Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

Alignment Scores: 2.37e-14 Length: 579  Score: 2.3.50 Matches: 179  Score: 2.3.50 Matches: 179  Pred. No.: 2.3.50 Matches: 179  Best Local Similarity: 24.43% Mismatches: 224  Query Match: 4 Gaps: 164  DS: 4 Gaps: 31  US-09-966-880A-9 (1-5514) x D40201 (1-579)  Qy 5506 TCAGGAGTTTGAGACCAGCTGGCCAACATGGTGAAACCCCATCTTACTAAAAAT 5451  Db 23 SerGlyValGInGluGInProGlyGlnHisValGluThrProProLeuGInLysLysAsp 42	5450 ACAAACATTAGCCGAGTGTGGTGGTGGCCGCTGTAATCCCATCTACCCGGAGGCT 5394	5378 CTTGAACCCAGGAGG	5333 Trccacrrcagcarcagacaccaaacccarcrcarcrcaaaaaaaa	5229	192 ********PIOSEIMEL	4949 TGTTTTCTGGCTCCTAGCAGTGTCTTGCATATCATAAGCACTAATTTGAATAGCA 4893 206PheArgSerHisGlyArgCysMetLeuGlnLeuArgSerSerArgThrAlaTrpAlaT 225 4892 TTTGTGGAAATACTCTGGTAACCCAAGTTTCCTTAAAGAAATCAAGAGTCCCATTGCAG 4833 111
CTGAGGCAGGAGATCTTTGGAGCCCAGGAGCTCCACTGAGCAGTGCTTGCGC 3789  Alig  AlaGlualaGlyGluLeuHisAspProGlyGlyCysAsnGluLeuArgSerCys 255  SCOT  CACTGCACTCCAGCCTGGGTGACGTTGCCTTGCTTGCTTG	CCTTT	UTIPHEULALISANGHAUNSETVALABSHLEUGINLYSGINGINGINGINGANG 32b ACAAAACCCCAAAGTACCAATATCCAATAAACTGAACAAATAAAC 4089      ::: ::::::    :::     gLysLysLysGlndLysGlnGluHisProGluLeuThrAlaGln 341  AAAATGTGCTATATCCATGCAATAGAATACCACCTGCAGTACAAAGGAAGAAGAAGCTACTT 4149                  ::	GGGGATGAAATCCCAAAGTCATGACGCTAAATGAAAGACTCAGACATGAAGGAGAGA 4206			A; Reference number: A40201 A; Reference number: A40201 A; Reference number: A40201 A; Reference number: A40201 A; Accession: DA A; Mocaule type: DNA A; Residues: 1-579 < CLA> R; Claverie, J. M. Genomics 12, 838-841, 1992 A; Title: Identifying coding exons by similarity search: Alu-derived and other potential] A; Reference number: A40200; MUID:92241891; PMID:1572661 A; Reference number: A40200; MUID:92241891; PMID:1572661 A; Connent: This "warning" entry is a conceptual translation in all 6 reading frames of C in-frame stop codons are shown as 'X'. C; Comment: Any significant similarity of a predicted protein sequence to a portion of the comment: Any significant similarity of a predicted protein sequence to a portion of the codons are shown as 'X'.
Qy         3730 CTGAGGCAGGAGA           Db         236 AlaGlualaGlyG           Qy         3790 CACTGCACTCCAGG           Db         256 HisCysThrProa           Qy         3850 TTAAAAATAAATG           Db         275 SLysLys1           Qy         3910 CTGATATTTGGT           Qy         3910 CTGATATTTGGT	3970 292 4030	300 4034 326 4090 342	Qy       4150 GGGGATGAATG         ::       ::         Db       353 ulleAsnLeuTyrl         Qy       4207 TAATGTATGCCAT         Db       363	4267 CAGGGCAGGC              364 -ArgProGly 4327 ATTGCTAGAA 	Oy 4378 CATTCTCCACAAAATGGGAAAA	A/Cadverte, J.m. A/Reference number: A40201 A/Accession: D40201 A/Molecule type: DNA A/Residues: 1-579 CCLA> R/Claverie, J.M. Genomics 12, 838-841, 1992 A/Title: Identifying coding A/Reference number: A40200; A/Contents annotation C/Comment: This "warning" ei in-frame stop codons are s: C/Comment: Any significant:

ò				_
;	4715 TCACCTAATGGTACGGGG	TCACCTAATGGTACGGGCAGAAGTGCAGAATTTGCGAAGTAAAGGGCTCAGGAATTT	4656	
q	281ThrTyrGlnAs	-ThrTyrGlnAspProAla***Lys*******PheSerGlyArgValLe	297	
φ	4655 GAATAACGTTTGC	TGGCAAGAGAATTGAAACTTTTCTTACACACTTATTTT	4605	
q	297 uValCysCysProGlyTrp	:oGlyTrp	303	
δý	4604 TCTTACATTGAGGTATAA	TCTTACATTGAGGTATAATTTACATACAGTAAACTCCACCATTTAAGATGCATAATTCT	4545	
qq	304	SerThrGluValGlu	308	
οy	4544 ACGAATATTTTGGATGT	ACGAATATTTTGGATGTAAACACCCCAAACTGCTACCACAGTCAGGATACAGAACCTGA	4485	
qa	309		315	
ογ	4484 ATCACCACCTCACCCCA	ATCACCACCCTCACCCCACCAGGGTTCTTCCCTCTTTGCAGTCCTTCCCTCCC	4425	
Ор	315 *LeuProArgSerSerAsp-	:::     p	328	
οy	4424 GACAACCACTGATTTG	TTTG	4386	
QQ	328 *ValAlaGlyThrThrGl	*ValAlaG1yThrThrG1yLeuCySTyrG1nIleTrpLeuIlePheValSerPhePheCy	348	
Qy	4385 GGAGAATGGAGTTTCACT	GTGTTGCCCAGGCTGGTCTTGAACTCCTGAGTTCTAGCAATC	4326	
qq	348 sArgGlyGlyValSerTh	sArgGlyGlyValSerThrCysCysProGlyCysSer***ThrProGluLeu	365	
οy	4325 TTCCCACGTGGCCTCTCA	TACAGGTGTGAGCCTCTAT	4266	•
qq	366 -GluHisThrProAlaMe	-GluHisThrProAlaMetAlaProLysValLeuGlyLeuGlnAlaCys	381	
δy	4265 TTTGCTTTCTGTAACTAT	TTTGCTTTCTGTAACTATAAGTTACTTTCCATTTTCTAGAATTTCGTATGGCATACATTAT	4206	
ф	382	:::  SerHisAlaTrp********PheGlnAlaGly	392	
δ	4205 CTCCTCCTTCATGTCTGA	CTCCTCCTTCATGTCTGACTCTTTAGCGTCATGACTTTGGG	4160	
qq	393 -SerTrpTyrvalAlaGl	-SerTrpTyrValAlaGlnAlaGlyValGlnArgCysAsnHisGlySerLeuSerLeuAs	412	
οy	4159	-ATTCATCCCCAAGTAGCTTCTTCCTTTGTACTGCAGGTGG	4119	
අ	412 pPheProGlyGlnValIl	LeuProGlnProPheGlu***LeuGlyI	432	
δy	4118 TATTCCATTGCATGGATA	TATICCATIGCAIGGATAIAGCACAITITGTITATITGTICACTIGITGAIGGAIATITG	4059	
qq	432 rAlaThrArgSerGly**	rAlaThrArgSerGly***PheLeuTyrLeuPhePheValGlu	446	
ογ	4058 GATAGTCTCTACTTTGGGGTTT	GATAGTCTCTACTTTGGGGTTTTGTGAATAAAGGTACTATGAACATTCACGTACCAGTCT	3999	
q Q	447valGlyPhe	·	459	
δy	3998 ITGIGIGGATATACATIG	TTGTGTGGATATACATTGAGAATTGATATTTTAATAATGTAGTGCAGGTGACAGACCCTG 	3939	
qq	459 u4		459	
٥y	3938 ACTTTAAAAGTTAAATAC	ACTITAAAAGTTAAATACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGC	3879	
q	460	 	468	_
Οy	3878 TCTTTGTAGTTGTTTCCA	ATTTTTTG	3825	
Db	468 pLeuLeuLysCysTrpAs	 	488	
Οy	3824 AGGTCTGGTCCTGTCACC	AGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCT	3765	
qq	488 nGlyLeuGlyMetLeuPro	oArgLeuGluTyrArgGlyAlaIleMetAlaHis-***AlaL	508	
Qy	3764 TGACCTCCTGGGCTCCAA	TGACCTCCTGGGCTCCAAAGATTCTCCTGCCTCAGCCCCCTAGTAGCTGGGACCACAGGC	3705	
qq	508 euThrSerGlnValLys*	**SerSerCysProSerLeuLeuSerSerTrpAspTyrArgL	528	

```
X-linked retinopathy protein (C-terminal, clone XEH.8c) - human (fragment)
C;Species: Homo sapiens (man)
C;Species: 11:Sep1993 #sequence_revision 18-Nov-1994 #text_change 05-Nov-1999
C;Accession: A46010
R;Wong, P.; MacDonald, I.M.; Sood, R.; Smith, C.; Pilon, R.; Tenniswood, M.
Genomics 15, 467-471, 1993
A;Title: Identification and partial characterization of a candidate gene for X-linked A;Reference number: A46010; MUID:93224131; PMID:8468040
3704 ACATGCCACCATGCCCGGCTAATTTTGTTATAG------AAACAGGGTTTTGCCA 3655
                                                                           5276 TITITITITITITITITIGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATG 5335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5456 TAGTAGAGATGGGGTTTCAC---CATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5396 CCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACACTCGGCTAATGTTTGTATTT 5455
                                                                                               20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Species: Homo sapiens (man)
Clate: 19-May-1994 #sequence_revision 10-Nov-1995 #text_change 21-Jan-2000
Clacession: $4104 #NUID: $4104; MUID: $4166884; PMID: $121495
A. Reference number: $41044 MUID: $4166884; PMID: $121495
A. Status: preliminary
A. Status: preliminary
                      5336 GCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A.Molecule type: nucleic acid
A.Kasidues: 1-10 C-WON>
A.Ciross-references: GB-558722; NID:g299470; PIDN:AAB26149.1; PID:g299471
A.Note: sequence extracted from NCBI backbone (NCBIN:129339, NCBIP:129340)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100
10
20
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IS-09-966-880A-9 (1-5514) x A46010 (1-100)
                                                                                                                                                    1.94e-13
213.50
71.95%
59.76%
2.21%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  thromosomal protein - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5513 AG 5514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ::
80 ln 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       red. No.:
                                                                                                                                                                                                                                  RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41044
                                  Q
                                                                                                                                                                                           9
                                                                         οχ
                                                                                                            Db
                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ⋩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ⋩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

ArgalaTrpTrpLeuThrSerVallleProAlaLeuTrpAspAlaGluValGlyGlyLeu CTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATAACA	LeuGluinirargserserargProAlaTirpAlaTir***GlnAspFroSerserlie-Ly AAAATTAGCCGGCATGGTGCCATGTGCCTGTGGTC :	61 rGln	3835 AAATAAGAAGAAAATTAAAAATAAATGGAAACAACTACAAAGAGCTGTTGTCCTAGATG 3894	5 AGCTACTTAGTTAGGCTGATATTTGGTATTTAACTTTTAAAGTCAGGGTCTGTCACCTG         	CACTACATTATTAAAATATCACAATGTATATCCACACAAAGACTGGTACGAATGATGATATCTACACAAAGACTGGTAGAATGTGAATGTATATCACACAAAGACTGGTAATGTGAATGTA	5 GTTCATAGTACTTTTATTCACAAACCCCAAAGTAGAGACTATCCAATATCCATCAACA 	4075 AGTGAACAAATAAACAAAATGTGCTATATCCATGCAATGGAATACCACCTGCAGTACAA 4134 	4135 AGGAAGAAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAAATGAAAGAGTCAGACA 4194	TGAAGGAGAGATAATGTATGCCATACGAAATTCTAGAAAATGAAAGTAACTTATAGTTA	CAGAAAGCAAATCAGGGAGGCATAGAGGCTCACACCTGTAATCCCAGCACTTTGAGAGG	4315 -CCACGTGGGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCTGGGCAACACAGTGAA 4373 :::	4374 ACTCCATTCTCCACAAAAATGGGAAAAAAGAAAGCAAATCAGTGGTTGTCCTGTGGGGA 4433 : : : : :	4434 GGGGAAGGACTGCAAAGAGGGAAGAAGCTCTGGTGGGGTGAGGGTGGTGATCAGGTTCT 4493	4494 GTATCCTGACTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAAATATTCGTAGAATTATG 4553 	4554 CATCTTAAATGGGTGGAGTTTACTGTAAGTAATTATACCTCAATGTAAGAAAAATAAT 4613 	4614 GTGTAAGAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTGAGCCCTTTA 4673 ::::::
oy oy	ga da	oy og	QY	Qy Dp	Oy Db	Oy Dp	Qy GD	yo da	G & G	Qy Dp	Qy	QY	Qy Db	Qy	QY	Qy
A:Residues: 1-418 <yeo> A;Cross-references: GB:L26953; NID:9537529; PIDN:AAB68050.1; PID:9537530 C:Superfamily: human 48.2K chromosomal protein C:Keywords: chromosomal protein</yeo>	Alignment Scores:  Pred. No.: Score: Score: Percent Similarity: Percent Similarity: Query Match: 2.12% Gaps: Gaps:	US-09-966-880A-9 (1-5514) x S41044 (1-418)  Qy 5510 GAGGTCAGGAGTTGAGACCAGCCTGGCCAACATGGTGAAAC 5469  L	5468		Qy     5372 CCCAGGAGGTGGAGGTTGCAGGCTATGRTCATGCCATCCAGTCCAG	Qy       5312 AAGACCAAAAACTCCATCTCAAAAAAAAAAAAAAAAAAA	Qy 5252 ATCATIGTCAAACTTGAATACTATG 5228 :::         :::		<pre>artifact-warning sequence (translated ALU class B) - human C;Species: Homo sapiens (man) C;Date: 31-Mar-1992 #sequence_revision 11-Aug-1995 #text_change 19-May-2000 C;Accession: B40201</pre>	R:Claverie, J.M. personal comunication, 1992 A:Reference number: A40201 A:Accession: B40201		A/11tle: Identifying cooling exons by similarity search: Alu-derived and other potentiall A/Reference number: A40200; MUID:92241891; PMID:1572661 A/Contents: annotation C/Comment: This "warning" entry is a conceptual translation in all 6 reading frames of c	stop c : Any s	4.42e-12 201.50 25.15%	Mismatches: Indels: Gaps:	US-09-966-880A-9 (1-5514) x B40201 (1-301)  QY 3559 CAGGTGTGGTGCTCACGCCTGTAATCCCAGCACTCTGGGAGGCTGAGGTGGATCG 3618 :::

A; Molecule type: DNA A; Residues: 1-196 <res> A; Cross-references: EMBL:X55777; NID:g288143; PIDN:CAA39297.1; PID:g288145 Alignment Scores: 4.11e-11 Length: 196 Ford. No.: 192.00 Matches: 46 Forcer: 55.88% Conservative: 10 Best Local Similarity: 54.12% Mismatches: 28 Query Match: 1.99% Indels: 1 DB: 2 Gaps:</res>	-09-966-880A-9 (1-5514) x 138022 (1-196) 5512 CTGAGGTCAGGAGTTTGAGACCAGCCTGCCCAACATGGTG 1	
OY 4674 CTTCGCAAATTCTCTGCACCTTCTGCCCGTACCATTAGGTGACAGCACTAGCTCCACAAA 4733  Db 176	09         189           09         4854 TCTTTAAGGAAACTTGGGTAATTCCACAAATGCTATTCAAATTAGTGCTTA 4913           09         190           190         111111           190         1914 TGATATGCAACACTGCTAGGAGAAACACAGAGGAGAAATAGTCTTAA 4973           09         4914 TGATATGCAACACATGCTAGGAGAACACATTTAGATATTTAGCAGAACACAGGAGGAGGT 5033           09         4974 TGTGGGAACACATAGCAATCAGTATATTAGATCATTTAGATATTTGGCAGTGT 5033           09         5034 ACAAATCACACATGCAATCAGTATAATCATTTAGAATTTTAGAAATTTTAGAAATTTTGCCTATTAGAAATTTTGTAGAATTTTGAAAATTTTAGAAATTTAGAAATTTAGAAATTTTAGAAATTTAGAAATTTAGAAATTTAGAAATTTTAGAAATTTAGAAATTTTAGAAATTTAGAAAATTTAGAATTAGAATTAGAAATTTAGAAATTTAGAAATTTAGAAATTTAGAAATTTAGAAATTTAGAATTAGAATTAGAAATTTAGAAATTTAGAAATTTAGAAATTTAGAATTAGAATTAGAAATTAGAAATTAGAAATTAGAATTATAGAATTATAGAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTATAGAAATTATAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTATAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAAATTAGAAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAATTAGAAAA	

Run

```
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
mus musculu
                                                                                                                                                                                                                                                                                                                        saccharomyc
yersinia en
drosophila
                                                                                                                                                                                                                                                                   sapien
                                                                                                                                                                        trypanosoma
saccharomyc
                                                                                                                                                                                                                saccharomyc
escherichia
                                                                                                                     mus musculu
homo sapien
                                                                                                                                                                                                    homo sapien
                                                                                                                                                                                                                                          schizosacch
                                                                                                                                                                                                                                                                                               homo sapien
                                                                                                                                                                                                                                                                                                              oryctolagus
                                                                                                        homo sapien
                                                                                                                                               sapien
                                                                                                                                                             homo sapien
                                                                                                                                                                                                                                                         homo sapien
                                                                                                                                                                                                                                                                                 drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDILINE-91178B15; PubMed-1706781;
Jurka J., Milosavljevic A.;
Jurka J., Milosavljevic A.;
"Reconstruction and analysis of human Alu genes.";
J. Mol. Evol. 32:105-121(1991).
-!- MISCELLANEOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE
THAT ALU REPEATS FALL INTO 8 SUBFAMILIES: THEREPECK; 8 ALU WARNING
CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX
FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Identifying coding exons by similarity search: alu-derived and other potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                                               homo
                                                                                                                                                                                                                                                                      homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi;
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Quentin Y.; "The Alu family developed through successive waves of fixation closely connected with primate lineage history."; J. Mol. Evol. 27:194-202(1988).
                                                                                                       094966 P002722 m002722 m002731 P021731 P021731 P024856 P04540 P04540 P048553 P48553 P76236 P076236 Q09837 e Q04860 P
                                                                                                                                                                                                                                                                   Q9nsg0 P
Q26366 c
P78563 P
P06333 c
Q03218 s
P42869 y
                       014628
P51957
Q99959
Q04864
Q15488
P20931
                                                                                                                                                                                                                                                                                                                                                                                                                                                           P39194;
01-FBB-1995 (Rel. 31, Cast sequence of the part of the par
                                                                                                                                                                                                                                                                                                                                                                                                                                               593 AA
                                                                                                                                                                                                                                                                                                                                                                                        ALIGNMENTS
                         Z195_HUMAN
NEK4_HUMAN
                                                                                                       UBPJ_HUMAN
Q300_MOUSE
TA2R_HUMAN
SGCE_HUMAN
                                                                                                                                                          KBF3_HUMAN
NU5M_TRYBB
YH17_YEAST
                                                                           2_HUMAN
                                                                                                                                                                                                                YJ85_YEAST
YEAI_ECOLI
                                                                                                                                                                                                                                                        KBF3_HUMAN
RHG8_HUMAN
                                                                                         SEP3_MOUSE
                                                                                                                                                                                                    EHO1_HUMAN
                                                                                                                                                                                                                                           YADC_SCHPO
                                                                                                                                                                                                                                                                                               RED1_HUMAN
                                                   PKP2_HUMAN
                                                                 REL_HUMAN
GYG2_HUMAN
                                                                                                                                                                                                                                                                                                              TCB1_RABIT
                                                                                                                                                                                                                                                                                                                                                    HMBC DROME
                                                                                                                                                                                                                                                                                   VG_DROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=95021758; PubMed=7935834;
Claverie J.-M., Makalowski W.;
"Alu alert.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALU FAMILIES CLASSIFICATION.
MEDLINE-88333009; PubMed=3138422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=92241891; PubMed=1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALU FAMILIES CLASSIFICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nature 371:752-752(1994).
SEQUENCE FROM N.A.
 Claverie J.-M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                               ALU7_HUMAN
P39194;
                                                                                                                                                                                                                                                                   90
88
88
87 · 5
87
86
139.5
136.129.5
129.5
122.5
113
109.5
105
105
                                                                                                                                              98
98
97.5
96
95.5
91.5
91.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CONCEPT
                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 1
ALU7_HUMAN
 00000
                                                                                                                                                               υo
                                                                                                                                                                                                    O
                                                                                                                                                                                                                                             O
                                                                                                                                                                                                                                                                      Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Command line parameters:

-MODEL=frame+_n2p.model -DEV=xlp

-Q=/cgn2_1/03794/app_query.fasta_1.9493

-Q=/cgn2_1/03704/spo_01/035996880/runat_14062003_175524_10304/app_query.fasta_1.9493

-D=-Cgn2_1/037970_spo_01/035996880/runat_14062003_175524_10304/app_query.fasta_1.9493

-D=-SwissProt_40 -QFMT=fastan -SUFFIX=n2p.rsp -MINMATCH=0.1 -LOOFCL=0

-LOOPEXT=0 -UNITS-bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi

-LIST=45 -DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15

-MODE-LCOCAL -OUTFWT=PLO -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=2000000000

-USRE-USO9968880_GCGN_1_1_196_Grunat_14062003_175524_10304 -MCPU=6 -ICPU=3

-NO_MMAP -LARGEQUERY -NGC_SCORES=0 -WAIT -DSPBLOCK=100 -LONGLOG

-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6

-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapien
                                                                                                        (without alignments)
6613.252 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                          1 acagacgaatacatggtcca.....tcaaactcctgacctcagag 5514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Description
                                                                                          ; Search time 69.1643 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P39193
P39195
P39188
P39194
P39195
P39193
P39192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P39189
P39190
P39192
P39190
P39191
P39191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P49646
P49646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P39194
             GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd

    protein search, using frame_plus_n2p model

                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                 112892 segs, 41476328 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALU1_HUMAN
ALU6_HUMAN
ALU8_HUMAN
ALU1_HUMAN
ALU7_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALU6_HUMAN
ALU5_HUMAN
ALU2_HUMAN
ALU2_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALU3_HUMAN
ALU5_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALU4_HUMAN
YYY1_HUMAN
                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALU3_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALU4_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALU7_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YYY1_HUMAN
                                                                                          June 14, 2003, 18:11:13
                                                                                                                                                                                                              Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
                                                                                                                                                                                                                                                                                                                                      seq length: 0
seq length: 2000000000
                                                                                                                                               US-09-966-880A-9
9659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SwissProt_40:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5991
5991
5991
5991
5987
5887
5887
6093
4188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                    BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query
Match ]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                    Scoring table:
                                                                 OM nucleic
                                                                                                                                                                                                                                                                                                                                      Minimum DB
                                                                                                                                                                                                                                                                                                                                                   Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database :
                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                 Searched:
                                                                                             ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Result
```

υo

Fri

```
4399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4552
                                                                                                                                                                                                                                                                                                                                               4280
                                                                                                                                                                                                                                                                                                                                                                                                        4339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4789
3921 GTATTTAACTTTTAAAGTCAGGGTCTGTCACCTGCACTACATTATAAAATATCAATTCT 3980
                                                                                                                3981 CAATGTATATCCACACAAAGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAAC 4040
                                                                                                                                                                         1041 CCCAAAGTAGAGACTATCCAAATATCCATCAACAAGTGAACAAATAAACAAAATGTGCTA 4100
                                                                                                                                                                                                                                                                                        1161 CCAAAGTCATGACGCTAAATGAAAGAGTCAGACATGAAGGAGGAGAGTAATGTATGCCATA 4220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1553 GCATCTTAAATGGGTGGAGTTTACTGTATGTAAATTATACCTCAATGTAAGAAAAAAA 4612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1613 TGTGTAAGAAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTGAGCCCTTT 4672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1673 ACTTCGCAAATTCTCTGCACTTCTGC---CCCGTACCATTAGGTGACAGCACTAGCTCCA 4729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1832 GCIGCAAIGGGGACICTIGAITICITITAAGGAAACIIGGGITACCAGAGTATITCCACAA 4891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      251
                                                                                                                                                                                                                                                                                                                                                                            104
                                                                                                                                                                                                                                                                                                                                                                                                                                   124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 167 euAsnProGlyGlyGly-----GlyCysSerGluProArg-----SerArgH 181
                                                                                                                                            96
                                                                                                                                                                                                     96
                                                                                                                                                                                                                                                                                                                    96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATCCATGCAATGGAATACCACCCTGCAGTACAAAGGAAGAAGCTACTTGGGGATGAATC
                                                                                                                                                                                                                                                                                                                                                 4340 AGGAGTTCAAGACCAGCCTGGGCAACACAGTGAAACTCCCATTCTCCACAAAATGGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----GlyGlyGlyArgLeu***SerGlnLeuLeuGlyArgLeuArgGlnGluAsnArgL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4493 TGTATCCTGACTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAAATATTGTAGAATTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1730 CAAATTGGATAAATGCATTTCTGGAAAAGACTAGGGACAAAATCCAGGCATCACTTGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               216 lyGlyTrpIleThr***GlyGlnGlu-------PheGluThrSerLeuAlaA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         231 snMetValLysProArgLeuTyr***LysTyrLysAsn***ProGlyValValAlaGlyA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --TyrSerGlyGly***GlyArgArglleAla***ThrA
                                                                                                                                                                                                                                                                                                                                                                                                          4281 AGGCTCACACCTGTAATCCCAGCACTTTGAGAGGCCACGTGG-GAAGATTGCTAGAACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTCATATCAACCACGCTGT------ACACCTTGTGCTGTCTGCTGTCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              193 rgLeuLystys********ProGlyAla--------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4460 GCTCTGGTGGGGTGAGGTGATTCAGGTT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          isCysThrProAlaTrpAlaThrArg----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     144 ys-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               laCysAsnProSer...
                                                                                                                                                                                                                                  4101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               251
                                                                                                                                                                                                                                                                                                                      96
                                                                                                                                                                                                                                                                                                                                                                             6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                             96
                                                                                                                                              96
                                                                                                                                                                                                     96
                                                                                                                                                                                                                                                              96
                             요
                                                                                                                                            g
                                                                                                                                                                                                     a
                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                        ŏλ
                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       òγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                          ò
                                                                                   g
                                                                                                                δý
                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

g

ò g ò

셤 ò

δ

g

g

ò

a

ò

g

ò

qq

ò

g ò a

ò

```
-! CAUTION: ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIVELY TRANSCRIBED BY POL III. NORMAL TRANSCRIPTS MAY CONTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS. LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTS (ESPECIALLY STUATED ON THE COMPLEMENTARY STRAND) HAVE A GREAT POTEWTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AN ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A CLONING ARTIFACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOCKED ON SEVERAL OCCASIONS, WITH CONSEQUENCE OF ERRONBOUS ALU-DERIVED AMINO ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3628 TGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATA----ACAAAA 3681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MISCELLANEOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE HATA ALU REDEATE S FALL INTO 8 SUBFAMILIES. THERREPORE, 8 ALU WARNING CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT COWININ ALL SIX FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE
                                                                                                                                                                                                                                                                 CODON, 'XXX' IS USED TO SEPARATE THE VARIOUS TRANSLATION PHASES. CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE
                                                                                                                                                                                                                                                   'X' INDICATES THE PRESENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               665D395735519D95 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       591
218
55
223
228
                                                                                 Jurka J., Milosavljevic A.;
"Reconstruction analysis of human Alu genes.";
J. Mol. Evol. 32:105-121(1991).
-!- MISCELLANEOUS: VARIOUS ANALYSES (com non 1 cm)
connected with primate lineage history.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-966-880A-9 (1-5514) x ALU1_HUMAN (1-591)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FRAME-1.
FRAME-2.
FRAME-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FRAME-5.
FRAME-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FRAME-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; U14567; -; NOT_ANNOTATED_CDS.
                                                                           MEDLINE-91178815; PubMed-1706781;
                                                                                                                                                                                                                                                                   CODON, 'XXX' IS USED TO SEP
CAUTION: THIS ALU ENTRY IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CODING NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MW;
                   Evol. 27:194-202(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2.95e-48
553.00
37.81%
30.19%
5.73%
                                                                                                                                                                                                                                                   MISCELLANEOUS: ISOLATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BEING REPORTED.
                                                                                                                                                                                                                                                                                                                               ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               591 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100
199
298
397
496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                       J. Mol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred.
 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                         5011
                                                                                                                                 5071
                                                                                                                                                                                                                                                                                                                                                                                                                                              5311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5491
                                                                                                                                                                                                         5072 TAAATATGTGCCTGTAGAAAGACTAGAGGAATAAACACAAGAATCTTAACAGTCATTGTC 5131
                                                                                                                                                                                                                                                                                     5132 ATTAGACACTAAGTCTAATTATTATTAGACACTATGATATTTGAGATTTAAAAAATC 5191
                                                                                                                                                                                                                                                                                                                                                                 5192 TITAATATTTTAAAATTTAGAGCTCTTCTATTTTCCATAGTATTCAAGTTTGACAATGA 5251
                                                                                               293
                                                                                                                                                                                                                                                   293
                                                                                                                                                                                                                                                                                                                                                                                                         296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rgGluAlaGluValAlaValSerArgAspArgAlaThrAlaLeu-GlnProGlyGlnGln 287
                                                                                                                                                                                                                                                                                                                           1012 CTAGTTAAAAAGCAGCAGAGTACAAAATCACACATGCAATCAGTATAATCCAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        327 yPheLysArgPheSerCysLeuSerLeuProSerSerTrpAspTyrArgArgProProPr
                                                       GAGGAGGAGAAATCAGTCATTATGTGGGAACAACATAGAGATATTTAGATCATTTTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACACTCGGCTAATGTTTTTTTTTTTTGTAGATGGGGTTTCACCATGTTGGCCAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Identifying coding exons by similarity search: alu-derived and other potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "The Alu family developed through successive waves of fixation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Eutele
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alu subfamily J sequence contamination warning entry. Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       591 AA
                                                                                         Glu-ArgAsnSerValSer-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5492 GTCTCAAACTCCTGACCTCAGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=95021758; PubMed=7935834; Claverie J.-M., Makalowski W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-92241891; PubMed-1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALU FAMILIES CLASSIFICATION.
MEDLINE-88333009; PubMed-3138422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nature 371:752-752(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11-FEB-1995 (Rel. 31,
16-OCT-2001 (Rel. 40,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claverie J.-M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALU1_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Alu alert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Quentin Y
                                                       1952
                                                                                                                                                                                                                                                                                                                                                                                                       596
                                                                                                                                                                                                                                                                                                                                                                                                                                            5252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367
                 268
                                                                                                                                                                                                                                                 293
                                                                                                                                                                                                                                                                                                                           294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CONCEPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P39188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
```

24

Fri

```
CCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACGGCTAATGTTTGTATTTT 5455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------TTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGAATG 5335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5336 GCATGAYCATAGCTCACTGCAACCTCCACCTCGGGTTCAAGCAAAGCTGTCGCCTCAG 5395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5281
                              1757 AGACTAGGGACAAAATCCAGGCATCACTTGTGCTTTCATATCAACCACGCTGTACAGCTT 4816
                                                                                                                                                                                                                                                                                  4987
                                                                                                                                                                                                                                                                                                                                                                4988 AGCAAGATATTTAGATCATTTTGACTAGTTAAAAAAGCAGCAGAGTACAAAAATCACACAT 5047
                                                                                                                                                                                                                                                                                                                                                                                                                                                  5101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5161
                                                                                                                                                                                                4868 TGGGTTACCAGAGTATTTCCACAAATGCTATTCAAATTAGTGCTTATGATATGCAAGACA 4927
                                                                                                                                                                                                                                                                                                                       ------AspProProAlaSerAlaSerGlnSerAlaGlyIleThrGlyValSerHis 390
                                                                                                                                                                                                                                                                                                                                                                                                           400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5048 GCAATCAGTATAATCCAA----ATCATGTAAATATGTGCCTGTAGAAGACTAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5162 GACACTATGATATTTGAGATTTAAAAAATCTTTAATATTTTAAAATTTAGAGCTCTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----GlnAlaArgAlaThrThrProGly***PheLeuTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         472 VallleLeuProProArgProProLysValLeuGlyLeuGlnAla***AlaThrAlaPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          401 ArgValSerLeuCysArgProGlyTrpSerAlaValAlaArgSerArgLeuThrAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5102 ATAAACACAAGAATCTTAACAGTCATTGTCATTAGACACTAAGTCTAATTATTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerThrSerArgAlaGlnAlaIleLeuLeuProGlnProProGlu***LeuGlyLeu---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             452 PheLeu***ArgArgGlyPheThrMetLeuProArgLeuValSerAsnSerTrpAlaGln
                                                                                                                                                                                                                                                                                  CTGTGCTAGGAGCCAGAAAACAAAGAGGAGAGAAATCAGTCATTATGTGGGAACAACAT
                                                                                                                  4817 GTGTTGCTGTCTGCAGCTGCAATGGGGACTCTTTGATTTCTTTAAGGAAACT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Alu subfamilly SP sequence contamination warning entry.
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostoml;
                                                                                                                                                                                                                                :::|||
361 TyrValAlaGlnAlaGlyLeuGluLeuLeuGlySerSer-----
                                                                                                                                                                                                                                                                                                                                                                                                             391 ArgAlaArg*******Phe-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               593 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5282 TTTTT---------
                                                                           -----ThrGlyAlaArgHisHis----
                                                                                                                                                     350 IlePheval------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALU6_HUMAN
P39193;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5287
340
                                                                               341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALU6_HUMAN
```

593 AA; 64603 MW; 136EF344AACD12A2 CRC64;

SEQUENCE

S

```
ACID SEQUENCES.

-1- CAUTION: ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIVELY TRANSCRIBED BY POL III. NORMAL TRANSCRIPTS MAY CONTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REBRRANGED CONAS. LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALIHOUGH ALU ELEMENTS (ESPECIALLY SITUATED ON THE COMPLEMENTARY STRAND) HAVE A GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBLLITY THAT THE PRESENCE OF AN ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A CLONING ARTHRATOR OF WAN BEEN OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOOKED ON SEVERAL OCCASIONS, WITH AND SECONSOURCE OF ERRONEOUS ALU-DERIVED AMINO ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BEING REPORTED.
CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE
CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE
WHITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A
PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE
CODING NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J. MOI. EVOL. 32:105-121(1991).
-1- MISCELLANGOUS: VARIOUS ANALYSES (SEE REF. 3 AND REF. 4) INDICATE THAT ALU REPEATS FALL INTO 8 SUBFAMILIES. THEREFORE, 8 ALU WARNING CONSENSOS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MISCELLANDOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP CODON, 'XXX' IS USED TO SEPARATE THE VARIOUS TRANSLATION PHASES. CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                            Claverie J.-M.; "Identifying coding exons by similarity search: alu-derived and other potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                                                                                                                                                                                                                                                                                                 'The Alu family developed through successive waves of fixation
  Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Reconstruction and analysis of human Alu genes.";
                                                                                                                                                                                                                                                                                                                                                                                                                    closely connected with primate lineage history."; J. Mol. Evol. 27:194-202(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALU FAMILIES CLASSIFICATION.
MEDLINE-91178815; PubMed-1706781;
Jurka J., Milosavljevic A.;
                                                                                                                                                                                                         MEDLINE-92241891; Pubmed-1572661;
                                                                                                                                                                                                                                                                                                                                                      MEDLINE-88333009; PubMed-3138422;
                                                                                  MEDLINE-95021758; PubMed-7935834;
                                                                                                   Claverie J.-M., Makalowski W.;
"Alu alert.";
                                                                                                                                                                                                                                                                                                                                    ALU FAMILIES CLASSIFICATION
                                                                                                                                            Nature 371:752-752(1994)
                                                        SEQUENCE FROM N.A.
                     NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REPEATS.
                                                                                                                         "Alu aleri
                                                                                                                                                                                                                                                                                                                                                                             Quentin Y
                                                                                                                                                                                        CONCEPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <del>-</del>-
```

modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).

FRAME-1. FRAME-2. FRAME-3. FRAME-4. FRAME-5.

97 196 196 395 593

DOMAIN

EMBL; U14572; -; NOT\_ANNOTATED\_CDS.
Hypothetical protein.

DOMAIN DOMAIN DOMAIN DOMAIN

```
4460 GCTCTGGTGGGGTGAGGGTGGTGATTCAGGTTCTGTATCCTGACTGTGGTAGCAGTTTGG 4519
                                                                                                                                3682 ATTAGCCGGCCATGGTGGCATGTGCCTGTGGTCCCAGCTACTAGGGG-GCTGAGGCAGGA 3740
                                                                                                                                                                                                                                                                                                GAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCC 3800
                                                                                                                                                                                                                                                                                                                                                    801 AGCCTGGGTGACAGGACCAGACCTTGCCTCAAAAAAATAAGAAGAAAAATTAAAATAAA 3860
                                                                                                                                                                                                                                                                                                                                                                                                        3921 GTATTTAACTTTTAAAGTCAGGGTCTGTCACCTGCACTACATTAAAAATATCAATTCT 3980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3981 CAATGTATATCCACACAAAGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAAC 4040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4041 CCCAAAGTAGAGACTATCCAAATATCCATCAACAAGTGAACAAATAAACAAAATGTGCTA 4100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4161 CCAAAGTCATGACGCTAAATGAAAGAGTCAGACATGAAGGAGGAGATAATGTATGCATA 4220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4340 AGGAGTTCAAGACCAGCCTGGGCAACACAGTGAAACTCCATTCTCCACAAAATGGGAAA 4399
                                                                                                                                                                                      3628 TGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATA-----ACAAAA 3681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ------Lys*******AlaGlyArgGl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -------LeuAlaGlyArgGlyAlaCysLeu***SerGlnL 157
                                                                                                                                                                                                                                                                     64
                                                                                                                                                                                                                                                                                                                          84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96
                                                                                                                                                96
                                                                                                                                                                                                                                                         65 GluSerLeuGluProGlyArgArgArgLeuArg***AlaGluIleAlaProLeuHisSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4400 AAAAGAAAGCAAATCAGTGGTTGTCCTGTGGGGGGGGGAAGGACTGCAAAGAGGGAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1281 AGGCTCACACCTGTAATCCCAGCACTTTGAGAGGCCACGTGG-GAAGATTGCTAGAACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                    ------ 96
                                                                                                                                                                                                                                                                                                                                                                               85 SerLeuGlyAsnLysSer-GluThrProSerGlnLys---
                                    Conservative:
Mismatches:
Indels:
                        Matches:
                                                                                                       US-09-966-880A-9 (1-5514) x ALU6_HUMAN (1-593)
                                                                               Gaps:
     1.8e-45
526.00
34.49%
29.52%
5.45%
                                      Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               144 ys----
Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --- 96
                                                                                                                                                                                                                                                                                                 3741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97
                                                               Query Match
              ..
9
                          Score:
                                                                                                                                 δ
                                                                                                                                                           g
                                                                                                                                                                                      δ
                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ά
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                     ò
```

373 uArg 374

```
5389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5329
                                                                                                                                                      4699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5031
                                                                                                                                                                                                            1700 CCGTACCATTAGGTGACAGCACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGA 4759
                                                                                                                                                                                                                                                                  CTAGGGACAAAATCCAGGCATCACTTGTGCTTTCATATCAACCACGCTGTACAGCTTGTG 4819
                                                                                                                                                                                                                                                                                                                         1820 TIGCIGICIGCAGCIGCAAIGGGGACICIIGAIIICIIIAAGGAAACIIGGGIIACCAGA 4879
                                                                                                                                                                                                                                                                                                                                                                               1880 GTATTICCACAAAIGCIATICAAAITAGIGCITAIGATAIGCAAGACACIGIGCIAGGAG 4939
                                                                                                                                                                                                                                                                                                                                                                                                                                      1940 CCAGAAAACAAAGAGGAGGAGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTT 4999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          313
                                       GCTGTTTACATCCAAAATATTCGTAGAATTATGCATCTTAAATGGGTGGAGTTTACTGT 4579
                                                                                              ATGTAAATTATACCTCAATGTAAGAAAAATAATGTGTAAGAAAAGTTTCAATTCTCTTG 4639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----ProSerThrLeuGlyG 214
                                                                                                                                                                                -----SerArgHisCysThrP 184
             ---G 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                214 ly------argGlyGlyArgIle------Thr***GlyArgGluPheG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5000 AGATCATTTTGACTAGTTAAAAAAGCAGCAGA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5090 AAGACTAGAGGAATAAACACAAGAATCTTAACAGTCATTGTCATTAGACACTAAGTCTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5150 TTATTATTATTAGACACTATGATATTTGAGATTTAAAAAATCTTTAATATTTTAAAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5210 AGAGCTCTTCTATTTTCCATAGTATTCAAGTTTGACAATGATCAAGTATTACTCTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5270 TTTTTTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTTTGGTCTTGTTGCCCCATGCTGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             294 -LysLys********PhePheLeuArgArgSerPheAlaLeuValAlaGlnAlaGlyVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5390 CCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACTCGGCTAATGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           226 luThrSerLeuThrAsnMetGluLysProArgLeuTyr***LysTyrLysAsn***ProG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --GTACAAAATCACACATGCAATCAGTATAATCCAAATCATGTAAATATGTGCCTGTAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               246 lyvalvalAlaHisAlaCys-----AsnProSerTyrSerGly-Gly***GlyArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----ArgileAla***ThrArgGluAlaGluValAlaValSerArgASp-----
                                                                                                                                                      1640 CCAGCAAACGTTATTCAAATTCCTGAGCCCTTTACTTCGCAAATTCTCTGCACTTCTGCC
                                                                                                                                                                                                                                         ----Trp-----AlaT
                                                               lyCysGlyGluProArg------
|||| :::||| euLeuGlyArgLeuArgGlnGluAsnArg---LeuAsnProGlyGlyGly-
                                                                                                                                                                                                                                                                                                                                                      -----HisAlaCysAsn-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             277 -----
                                                                                                                                                                                                                                         roAla-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5510
                                                                                                                                                                                                                                         184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5032
                                         4520
                                                                                                                          178
                                                                                                                                                                                                                                                                    4760
                                                                                                                                                                                                                                                                                              188
                                                                                                                                                                                                                                                                                                                                                                                                             209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       263
              157
                                                                     173
                                                                                                                                                                                  179
                                                                                                                                                                                                                                                                                                                                                     205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                g
                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
              g
                                         ò
                                                                     셤
                                                                                                 ò
                                                                                                                        g
                                                                                                                                                      δ
                                                                                                                                                                                                           à
```

```
-...LOURTLAND STATE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIVELY TRANSCRIBED BY POL III. NORMAL FRANSCRIPTS MAY CONTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIEMTATION. ALTHOUGH ALU ELEMENTA E GENERAL STRUMAL OR REARRANGED CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AN ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A CLONING ARTIFACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOOKED ON SEVERAL OCCASIONS, WITH CONSEQUENCE OF ERRONEOUS ALU-DERIVED AMINO ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              s SWISS-PROT entry is copyright. It is produced through a collaboration seen the Swiss institute of Bioinformatics and the EMBL outstation Buropean Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        J. MOl. Evol. 32:105-121(1991).

-!- MISCELLANBOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE

-!- MISCELLANBOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE

THAT ALU REPEATS FALL INTO 8 SUBFAMILIES. THEREFORE, 8 ALU WARNING

CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX

FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU

REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- MISCELLANEOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP CODON, 'XXX' IS USED TO SEPARATE THE VARIOUS TRANSLATION PHASES.
-!- CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                             Claverie J.-M.; "Identifying coding exons by similarity search: alu-derived and other potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE CODING NUCLEOTIDE SEQUENCE.
                                                                                                                                                                    Eukaryota; Metazoa; 'Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fixation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Quentin Y.;
"The Alu family developed through successive waves of closely connected with primate lineage history.";
J. Mol. Evol. 27:194-202(1988).
                                                                                                                                      Alu subfamily SX sequence contamination warning entry.
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-91178815; PubMed-1706781;
Jurka J., Milosavljevic A.;
Reconstruction and analysis of human Alu genes.";
J. MOL. Evol. 32:105-121(1991).
                                                                                                                     update)
                                      AA.
                                                                        01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update
                                    591
                                    PRT;
                                                                                                                                                                                                                                                                                  PubMed=7935834;
                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=92241891; PubMed=1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-88333009; PubMed-3138422;
                                                                                                                                                                                                                                                                                                   Claverie J.-M., Makalowski W. "Alu alert.";
Nature 371:752-752(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALU FAMILIES CLASSIFICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALU FAMILIES CLASSIFICATION
                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACID SEQUENCES.
                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. MEDLINE-95021758; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BEING REPORTED
                                      ALU8_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                         CONCEPT
                                                           P39195
RESULT 4
ALU8_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -
```

the I

	158 yArgLeuArgGlnGluAsnArgLeuAsnProGlyGlyGlyGly-CysSerGluProArgS 178 4460 GC	4489GTTCTGTATCCTGACTGTGCTAGCAGTTTGGGGTGTTTACATCCAAAATATTCG 4543 218 leThr***GlyGlnGluPheGluThrSerLeualaAsnMetValLysProArgLeuTyr* 238 4544 TAGAATTATGCATCTTAAATGGGTGGAGTTTACTGTATGTA	4604 AAAAATAATGTGTAAGAAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCT :::	4664 GAGCCCTTTACTTCGCAAATTCTCTGCACTTCTGCCCCGTACCATTAG   1	4/12 GTGGCACCACAAATTGGATAAATGCATTTCTGGAAAAGACTAGGGAAAAA 4//1 :::::::::::::::::::::::::::::::::::	4832 GCTGCAA        319 isCysAs	4849TGATTCTTTAAGGAAACTTGG 4870   1   1   1   1   1   1   1   1   1	4871 GTTACCAGAGTATTTCACAAATGCTATTCAAATTAGTGCTTATGATATGCAAGACA 4927 	4928 CTGTGCTAGGA	4939GCCAGAAAACAAAGAG 4954                 :: 398 he***AspGlyValSerLeuCysArgProGlyTrpSerAlaValAlaArgSerArg 416	4955 GAGGAGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTTAGATCATTTTGACTA 5014 417	5015 GTTAAAAAAGCAGCAGAGTACAAAATCACACATGCAATCAGTATAATCCAAATCATAA ::: ::
not removed. Usage by and for commercial eement (See http://www.isb-sib.ch/announce/-sib.ch).  CDS.  AME-1.  AME-2.  AME-4.  AME-4.  AME-6.  AME-6.  AME-7.	Length: 591 Qy Matches: 215 Conservative: 54 Mismatches: 173 Indels: 342 Qy Gaps: 24 Db	1-5514  x ALUB_HUMAN (1-591)	TrpProThrTrp***AsnProvalSe 39 CATGTGCCTGTGGTCCCAGCTACTAG 3725 ACAIaProvalTiPProAlaThr111 ACAIaProvalTiPProAlaThran 59	TGCT 3784 :: 79	TGGGCCACTGCAGCTGGGTGACAGGACCAGACCTTGCCTCAAAAAATAAGAAG 3844	TTAGGCTGATATTTGGTATTTAACTTTTAAAGTCAGGGTCTGTCACCTGCACTACATTA 3964  DD	TTAAAATATCAATTCTCAATGTATATCCACAAAGACTGGTACGTGAATGTTCATAGTA 4024  DD	CCTTTATTCACAAAACCCCAAAGTAGAGACTATCCAAATATCCATCAACAAGTGAACAAA 4084 Db	TAAACAAAATGTGCTATATCCATGCAATGGAATACCACCCTGCAGTACAAAGGAAGG	TACTIGGGGAIGAATCCCAAAGICAIGACGCTAAAIGAAAGAGTCAGACAIGAAGGAGGA 4204 Db	GATAATGTATGCCATACGAAATTCTAGAAAATGAAAGTAACTTATAGTTACAGAAAGCAA 4264  DD	97
CC entities requires a license agreement (CC or send an email to license@isb-sib.ch) CC entities remail to license@isb-sib.ch) CC entities email to license@isb-	ment Scores: No.: it Similarity: Cocal Similarity Match:	US-09-966-880A-9 (1-5514) x ALUB.  Qy 3552 AGACAGCCAGGTGTGGTGCTGC	Db 21SerProGluvalArg  Qy 3672 TATAACAAAATT  Db 39 TThTLVSASDTDTLVSTIF	3726 59	3785 79 3845	DD 96	3965 3965	4025 96	QY 4085 TAAACAAAATGTGCTATAT	4145	4205	Db 97

```
5512
                                                                                                                                                                                                                                                                                                                                       5452
                                                                                                                                                                                                                                   5332
                                                                                                                                                                                                                                                                                      5392
                         ATATGTGCCTGTAGAAAGACTAGAGGAATAAACACAAGAATCTTAACAGTCATTGTCATT 5134
                                                                                                                                                                                                                                                                                                              530
                                                                                                    419 laThrSerAlaSerArgValGlnAlaIleLeuLeuProGlnProPro-Glu***LeuGly 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Identifying coding exons by similarity search: alu-derived and other potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                              5195 AATATTTAAAATTTAGAGCTCTTCTATTTTTCCATAGTATT---CAAGTTTGACAATGA
                                                                                                                                                                                                                                    ------TITITITITGAGAIGGAGITITGGICITGITGCCCAIGCIGGAGIGGA
                                                                                                                                                                                                                                               ATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCT
                                                                                                                                                                                                                                                                                                   5393 CAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACACTCGGCTAATGTTTGTAT
                                                                                                                                                                                                                                                                                                                                                      5453 TITIAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                       ----IlePheLeuProLysCysTrpAspTyrArgArgGluProProArgProAlaSer
                                                                            5135 AGACACTAAGTCTAATTATTATTAGACACTATGATATTTGAGATTTAAAAAATCTTT
                                                                                                                                                                                  Craniata; Vertebrata; Euteleostomi;
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The Alu family developed through successive waves of fixation losely connected with primate lineage history."; Mol. Evol. 27:194-202(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALUL HUMAN STANDARD; PRT; 591 AA. p39188; 01-FEB-1995 (Rel. 31, Created) 01-FEB-1995 (Rel. 31, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) Alu subfamily J sequence contamination warning entry. Homo sapiens (Human).
                                                     LeuGlnAlaArqAlaThrThrProGly--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALU FAMILIES CLASSIFICATION.
MEDLINE-88333009; PubMed=3138422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ALU FAMILIES CLASSIFICATION.
MEDLINE-91178815; Pubmed-1706781;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=95021758; PubMed=7935834;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-92241891; PubMed-1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claverie J.-M., Makalowski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Alu alert.";
Nature 371:752-752(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claverie J.-M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                             A 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Quentin Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6
                                                                                                                                                                                                                                                                                                                                                                                                                                              5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          closely of Mol. 1
                                                                                                                                                                                                                                                                                       5333
                                                                                                                                                                                                            473
                                                                                                                                                                                                                                      5285
                                                     439
                                                                                                        448
                                                                                                                                                         459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CONCEPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                         δy
                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                      ò
                                                   g
                                                                                                       g
                                                                                                                                ò
                                                                                                                                                       g
                                                                                                                                                                                  à
                             ð
                                                                               ò
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@ib-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAUTION: ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIVELY TRANSCRIBED BY POL III. NORMAL TRANSCRIPTS ANY CONTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTA SECRIALLY SITUATED ON THE COMPLEMENTARY STRAND) HAVE A GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AN ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A CLONING ARTIFACT OR MAY BE DUE TO MISINTERPREPATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOOKED ON SEVERAL OCCASIONS, WITH THE CONSEQUENCE OF ERRONEGUE OF ERRONEGUE ALU-DERIVED AMINO ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ArgGlnGluAspArgLeuSerProClyGlyArgGlyCysSerGluPro***SerArgHis 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BEING REPORTED.

CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE CODING NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. MOl. Evol. 32:105-121(1991).

-!- MISCELLANBOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE

-!- MISCELLANBOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE

THAT ALU REPEATS FALL INTO 8 SUBFAMILIES. THEREFORE, 8 ALU WARNING

CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX

FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGCGACAGCTTTGCTTGAACCCAGGAGGTGGAGGTTGCAGTGAGCTATGRTCATGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5452 ATACAAACATTAGCCGAGTGTGGTGGTGGCGCCTGTAATCCCATCTACCCGGGAGGCTG
                                                                                                                                                 -!- MISCELLANEOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP CODON, 'XXX' IS USED TO SEPARATE THE VARIOUS TRANSLATION PHASES.
-!- CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665D395735519D95 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              591
201
43
218
204
                of human Alu genes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-966-880A-9 (1-5514) x ALU1_HUMAN (1-591)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FRAME-1.
FRAME-2.
FRAME-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FRAME-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FRAME-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; U14567; -; NOT_ANNOTATED_CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ψ¥.
                                   32:105-121(1991)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8.29e-42
490.50
36.75%
30.27%
                "Reconstruction and analysis
Milosavljevic A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ¥
                                                                                                                                                                                                                                         ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100
199
298
397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred.
  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
```

ò

```
-1 CAUTION: ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ATTIVELY TRANSCRIBED BY POL III. NORMAL TRANSCRIPTS MAY CONTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTS (ESPECIALLY STRUAD) HAVE A GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS.

CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AN ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A CLONING ARTIFRACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOCKED ON SEVERAL OCCASIONS, WITH THE CONSEQUENCE OF ERRONBOUS ALU-DERIVED AMINO ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                             ALU FAMILIES CLASSIFICATION.

MEDLINE-91178815; PubMed=1706781;
Jurka J., Millosavljevic A.;

"Reconstruction and analysis of human Alu genes.";

J. Mol. Evol. 32:105-121(1991).

"Reconstruction and Amarous Analyses (SEE REF. 3 AND REF. 4) INDICATE
"INTA ALU REPEATS FALL INTO 8 SUBFAMILIES. THEREFORE, 8 ALU WARNING
CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX
FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MISCELLANEOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP COODN, 'XXX' IS USED TO SEPRANTE THE VARIOUS TRANSLATION PHASES. CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                   Closely connected with primate lineage history.";
J. Mol. Evol. 27:194-202(1988).
potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                                                          MEDLINE-88333009; PubMed-3138422;
                                                                                                                         ALU FAMILIES CLASSIFICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACID SEQUENCES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BEING REPORTED
                                                                                                                                                                                                       Quentin Y
    NATER TRANSPORTED TO THE STATE OF THE STATE
```

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way noved. Usage by and for commercial
(See http://www.isb-sib.ch/announce/ and for commercial use by non-profit institutions as long a modified and this statement is not removed. entities requires a license agreement (See hor send an email to license@isb-sib.ch).

CODING NUCLEOTIDE SEQUENCE.

FRAME-6. 54A4F50F33A6089F CRC64; FRAME-1. FRAME-2. FRAME-3. FRAME-4. FRAME-5 EMBL; U14573; -; NOT\_ANNOTATED\_CDS.
Hypothetical protein. .. Μ 593 64417 593 AA; 101 200 299 399 498 DOMAIN SEQUENCE DOMAIN DOMAIN DOMAIN DOMAIN

```
593
200
50
187
254
20
                           Conservative:
Mismatches:
Indels:
          Length:
Matches:
       1.05e-41
489.50
36.28%
29.03%
5.08%
                       Percent Similarity:
Best Local Similarity:
Alignment Scores:
Pred. No.:
                                          Query Match:
                   Score:
```

US-09-966-880A-9 (1-5514) x ALU7\_HUMAN (1-593)

qa	122 1	
Qy	5452 A	TACAAACATTAGCCGAGTGTGGTGGTGGTGGCGCCTGTAATCCCATCTACCCGGGAGGCT
Db	142 I	
Qy	5392 A 162 A	AGGCGACAGCTTTGCTTGAACCCAGGAGGTGGAGGTTGCAGTGAGCTATGRTCATGCCAT 5333 
λÔ	32	1CTCCAGCATGGGCAACAAGACCAAAACTCCATCTCAAAAAAAA
op qa	182	
Qy	5272 A	aaaagaaaagagtaatacttgtcaacttgaatatgtcaaltsgaatacaaaaatagaagc 5213
qq	200 -	200
ΟŊ	5212 T	CTAAATTTTTAAAATATTAAAGATTTTTTAAA
QQ	200 -	200
Qy	5152 T	TATTCCTC
qq	201 -	GlyalaValAlaHisAlaCysAsn 208
Qy	5092 C	CTTTCTACAGGCACATATTTACATGATTATGGATTATACTGATTGC 5048
qq	209 P	 
δy	5047 A	TGTGTGATTTTGTACTCTGCTGCTTTTTTAACTAGTCAAAATGATCTAAAT
qq	229 L	:: euAlaAsnMet
Qy	4987 A	ATGITGTTCCCACATAATGACTGATTTCTCCCTCCTTTGTTTTCTGGCTCCTAGCACAG 4928
Dp	239 -	239
δ	4927 T	GTCTTGCATATCATAAGCACTAATTTGAATAGC
QΩ	240 -	
Qy	4867 A	GTTTCCTTAAAGAAATCAAGAGTCCCCATTGCAGCTGCAGACAGCAACACAAGCTGTAC 4808
qa	246 G	
Qy	4807 A	SAAAGCACA
Dp	<b>266</b> *	**ThrArgGluAlaGluValAlaVal274
Qy	4747 A	TGCATTTATCCAATTTGTGGAGCTAGTGCTGTCACCTAATGGTACGGGGAGAAGTGCA 4688
QQ	275 -	1   1   1   1   1   1   1   1   1   1
Qy	4687 G	AGAATTTGCGAAGTAAAGGGCTCAGGAATTTGAATAACGTTTGCTGGCAAGAGAATTGA 4628
QQ	279 A	AlaThrAlaLeuGlnProGlyGlnGlnGluArgAsnSerVal
Qy	4627 A	ACT
qa	: 293 S	:: erLysLys*******PhePheLeuArgArgSerPheAlaLeuValAlaGlnAlaGly 312
Qy	4567 A	ACCCATTTAAGATGCATAATTCTACGAATATTTTGGATGTAAACACCCCAAACTGCTAC 4508
Db	313 V	alGlnTrp
Qy	4507 C	CACAGTCAGGATACAGAACCTGAATCACCACCTCACCCCACCAGAGCTTCTTCCCT 4451
qq	317 -	
Qy	4450 C	CTTTGCAGTCCTTCC

SX sequence contamination warning entry

```
subfamily
                                                                                                                                                                                                                                                                                             <u>-</u>-
                                                                                                                                                                                                                                                                                                            -
                                                                                                                                                                                                                                                                                                                                    ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                  +
3873
                                                                                                                                                                                                                                                                                                                                            3813
                                                                                                                                                                                                                                                                             3933
                                                                                                                                                                                                                                                                                                                                                                                                                                           3640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTTGAACTCCAGGGCTCAAGCGATCCACCACCTCAGCCTCCCAGAGTGCTGGGATTAC 3580
                                                                                                                                                                                                              4053
                                                                                                                                                                                                                                                                                                                                                                                                           3694
                                                                                                                                                                            442
                                                                                                                                                                                                                                                                                                                                                                                                                           546
                                                                                                                                                                                                                                                                                                                                                                                                                                                          566
                                                               388
                                                                                                                                                                                                                             456
                                                                                                                                                                                                                                                             468
                                                                                                                                                                                                                                                                                                                            487
                                                                                                                                                              429
                                                                                                                                                                                                                                                                                            477
                                                                                                                                                                                                                                                                                                                                                           506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         586
351
                                                                                                                                                                                                                                                                                                                                                                                                                                                  |||||| | |||||||
hrProGly***PheLeuTyrPhe*****ArgArgGlyPheThrMetLeuAlaArgLeuV
                       TGAACTCCTGAGTTCTAGCAATCTTCCCACGT-GGCCTCTCAAAGTGCTGGGATTACAGG
                                                             369 ArgThrProAspLeuArg***SerThrArgLeuGlyLeuProLysCysTrpAspTyrArg
                                                                                             389 ArgGluProProArgProAla*******PhePhe***AspGlyValSerLeuLeu
                                                                                                              ProArgLeuGluCysSerGlyAlaIleSerAlaHisCysAsnLeuArgLeuProGlySer
                                                                                                                                                                                       4112 ATTGCATGGATATAGCACATTTTGTTTATTTGTTCACTTGTTGATGGATATTTGGATAGT
                                                                                                                                                                                                                                             1052 CTCTACTTTGGGGTTTTGTGAATAAAGGTACTATGAACATTCACGTACCAGTCTTTGTGT
                                                                                                                                                                                                                                                                            1992 GGATATACATTGAGAATTGATATTTAATAATGTAGTGCAGGTGACAGACCCTGACTTTA
                                                                                                                                                                                                                                                                                     3932 AAAGTTAAATACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGCTCTTTG
                                                                                                                                                                                                                                                                                                                          -----AlaSerGlnSerAlaGlyIleTh
                                                                                                                                                                                                                                                                                                                                          3872 TAGTTGTTTCCATTTATTTTTAATTTTTCTTCTTATTTTTTTGAGGCCAAGGTCTGGTCCT
                                                                                                                                                                                                                                                                                                                                                          487 rGly-ValSer---HisArgAlaArg*******PhePheGluThrGluPheArgSerC
                                                                                                                                                                                                                                                                                                                                                                          GTCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGG
                                                                                                                                                                                                                                                                                                                                                                                   3752 CTCCAAAGATTCTCCTGCCTCAGCCCCCTAGTAG-CTGGGACCACAGGCACATGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                    3693 TGCCCGGCTAATTTTTG-----TTATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuSerLeuProSerSerTrpAspTyrArqArqProProProArqProAlaAsn----
                CTTTCTTTTTTTCCCATTTTTGTGGAGAATGGAGTTTCACTGTGTTGCCCAGGCTGGTCT
                                                                               -CTATGCCTG
                                                                                                                                              TCTAGAATTTCGTATGGCATACATTATCTCCCTCCTTCATGTCTGACTCTTTCATTTAGCG
                                                                                                                                                                                                                             rGlyAlaArgHisHisAlaArgLeuIlePheValPheLeuVal-------
                                                                                                                                                                                                                                                            ------GluThrGlyPheHisHisValGlyGlnAlaGlyLeu----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        591 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGCGTGAGCCACCACCTGGC 3557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        593
                                                                                                                                                             Ser-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InAla ** * AlaThrAlaProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                              TGTGAGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Rel. 31, C
(Rel. 31, I
(Rel. 41, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALU8_HUMAN
P39195;
01-FEB-1995
01-FEB-1995
15-JUN-2002
                                              348
                                                                              1289
                                                                                                             1271
                                                                                                                                             4232
                                                                                                                                                                                                                                                                                                                                                                          3812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3639
               4408
                                                                                                                             409
                                                                                                                                                             429
                                                                                                                                                                                             430
                                                                                                                                                                                                                                                                                           469
                                                                                                                                                                                                                                                                                                                            478
                               352
                                                                                                                                                                                                                                                             457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALU8_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95444
                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
               à
                              8
                                             ç
                                                           셤
                                                                             ð
                                                                                            g
                                                                                                            ò
                                                                                                                          g
                                                                                                                                            $ g
                                                                                                                                                                       ŏ
                                                                                                                                                                                         g
                                                                                                                                                                                                           ò
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAUTION: ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACITUELY TRANSCRIBED BY POL III. NORMAL TRANSCRIBENS MAY CONTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTS (ESPECIALLY SITUATED ON THE COMPLEMENTARY STRAND) HAVE A CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AN ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A CLONING ARTIFACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOONED ON SEVERAL OCCASIONS, WITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-91178815; PubMed-1706781;
Jurka J., Milosavljevic A.;
Jurka J., Milosavljevic A.;
J. Mol. Svol. 32.105-121(1991).
-1- MISCELLANEOUS: VARIOUS ANALYSES (SEE REF. 3 AND REF. 4) INDICATE
THAT ALU REPEATS FALL INTO 8 SUBFAMILIES: THEREPEORSE, 8 ALU WARNING
CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX
FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        similarity search: alu-derived and other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CODON, 'XXX' IS USED TO SEPARATE THE VARIOUS TRANSLATION PHASES. CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHE POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUE
WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A
PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE
                                Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of fixation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MISCELLANEOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A
                            Craniata; Vertebrata; Eutelo
Catarrhini; Hominidae; Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      successive waves
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   closely connected with primate lineage history."; J. Mol. Evol. 27:194-202(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misleading protein sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FRAME-1.
FRAME-2.
FRAME-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; U14574; -; NOT_ANNOTATED_CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The Alu family developed through
                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE-95021758; PubMed-7935834;
                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-92241891; PubMed-1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=88333009; PubMed=3138422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CODING NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                   Claverie J.-M., Makalowski W.;
                            Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        рy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALU FAMILIES CLASSIFICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALU FAMILIES CLASSIFICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genomics 12:838-841(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claverie J.-M.;
"Identifying coding exons
                                                                                                                                                                                                                                                                                                           Nature 371:752-752(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96
195
294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical protein.
DOMAIN
DOMAIN
100
   (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACID SEQUENCES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BEING REPORTED.
                                                                                                     NCBI_TaxID=9606;
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            potentially
                                                                                                                                                                                                                                                                              "Alu aler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Quentin Y
                                                                                                                                                                                                                                                                                                                                                                                   CONCEPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
```

ą	322	LeuArgLeuProGlySerSer 328
λ	4651	AACGTTTGCTGGCAAGAATTGAAACTTTTCTTACACATTATTTTTTTT
ą	328	328
27	4591	TATAATTTACATACAGTAAACTCCCACCCATTTAAGATGCATAATTCTACGAATATTTTG 4532
qc	328	328
λγ	4531	TGTAAACACCCCAAACTGCTACCACAGTCAGGATACAGAACCTGAATCACCACCCTCA 44
ą	329	333
ζζ	7	CCCCACCAGAGCTTCTTCCTCTTTGCAGTCCTTCCCCTCCCCAGGGCAACCACTGAT 4412
g.	334	-AlaSerArgValAlaGiyIleThrGiyALaArgHi8H1 340
λ, q	4411	TIGCTICTTTTTTCCCATTTTTGTGGGGAATGGGGGTTTCACTGTGTTGCCCAGGGGGGGG
λ	ι.	TCTTGAACTCCTGAGTTCTAGCAATCTTCCCACGTGGCCTCTCAAAGTGCTGGGATTACA 4292
qc	366	yLeuGluLeuLeuThrSerGlyAspLeuProProLysValLeuGlyLeuGl 383
λy	4291	ACTATAAGTTACTTTCATTTT 42
qc	383	nala***AlaThralaPro 389
λλ	4231	TGGCATACATTATCTCCTTCCTTCATGTCTGACTCTTT
qC	389	389
λζ	4171	
qo	390	GlyLeu-ArgPro*******PhePhe***AspGlyValSerLeuCySA 406
γζ	4129	CIGCAGGGIGGTATTCCATIGCATGGATATAGCACATTTGTTTATTTGTTCACTTGTTG 4070
qq	406	rgProGlyTrpSerAlaValAla413
λζ	4069	TCTCTACTTTGGGGTTTTGTGAATA
qo	414	420 TrgSerArgLeuThrAlaT
2y Ob	4009	CGTACCAGTCTTGTGTGGATATACATTGAGAATTGATATTTAATAATGTAGTGCAGGT 3950 
: >	6 7	CTTTAAAAGTTAAA3
. A	4 3	4
δy	3923	TACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGCTCTTTGTAGTTGT 3866
q	454	**ArgArgGlyPheThrMetLeuAlaArgLeuValSerAsnSer***ProGlnValIleP 474
۵y	9	CTT 38
qq	474	****
οy	3841	TTATTTTTTGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAGGGGGAAGC
qq	494	L 514
oy	· 00	ACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTCAGCCC-CCTA 3723
a ·	TC :	, ,
Qy Db	3722	GTAGCTGGGCACCACACATGCCACCATGCCGGCTAATTTTTGTTATAGAA 3bb9 
3	`	

```
ACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAGCGATCCACCC 3609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LIGATED WITH ALL-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU
ELEMENTS (ESPECIALLY SITUATED ON THE COMPLEMENTARY STRAND) HAVE A
GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS,
CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE
OF AN ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A
CLONING ARTIFACT OR MAY BE DUE TO MISINFERPREPATION OF SEQUENCING
DATA. THIS POINT HAS BEEN OVERLOOKED ON SEVERAL OCCASIONS, MITH
THE CONSEQUENCE OF ERRONEOUS ALU-DERIVED AMINO ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jurka J., Milosavljevic A.;
"Reconstruction and analysis of human Alu genes.";
J. Mol. Evol. 32:105-121(1991).
-!- MISCELLANEOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE
THAT ALU REPEATS FALL INTO 8 SUBFAMILIES. THEREFORE, 8 ALU WARNING CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX
FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAUTION: ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIVELY TRANSCRIPED BY POL III. NORMAL TRANSCRIPTS MAY CONTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNIRANSLATED REGIONS. HOMEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS.
                                  554 spGlyValSerProCysTrpProGlyTrpSerArgThrProAspLeuArg***Ser---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MISCELLANEOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP COODN, 'XXX' IS USED TO SEPRATE THE VARIOUS TRANSLATION PHASES. CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  search: alu-derived and other
                                                                                                                                                                                                                                                                                                                                    Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of fixation
                                                                           3608 ACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCAC 3567
                                                                                                01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
16-007-2001 (Rel. 40, Last annotation update)
Alu subfamily SP sequence contamination warning entry.
Homo saplens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             closely connected with primate lineage history."; ... Mol. Evol. 27:194-202(1988).
                                                                                                                                                                                              593 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claverie J.-M.;
Identifying coding exons by similarity se
potentially misleading protein sequences."
Genomics 12:838-841(1992).
                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ALU FAMILIES CLASSIFICATION.
MEDLINE-91178815; PubMed-1706781;
                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=7935834;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALU FAMILIES CLASSIFICATION.
MEDLINE-88333009; Pubmed-3138422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-92241891; PubMed-1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claverie J.-M., Makalowski W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nature 371:752-752(1994)
                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BEING REPORTED
                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-95021758;
                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                ALU6_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'Alu alert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Quentin Y
3668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CONCEPT
                                                                                                                                                                          ALU6_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>-</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>:</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -
                                                                                                            g
                                                                                                                                                                                                셤
                                                                           ö
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5272 AAAAGAAAGAGTAATACTTGATCATTGTCAAACTTGAATACTATGGAAAAATAGAAGAGC 5213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5212 TCTAAATTTTAAAATATTAAAGATTTTTTAAATCTCAAATATCATAGTGTCTAATAATAA 5153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1972 AATGACTGATTTCTCCTCCTCTTTGTTTTCTGGCTCCTAGCACAGTGTCTTGCATATCAT 4913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                142 IleGinLysLeuAlaGlyArgGlyGlyAlaCysLeu***SerGlnLeuLeuGlyArgLeu 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          182 CysThrProAlaTrpAlaThrArgAlaLysLeuArgLeuLysLys*******ProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --- AAAAAAAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5092 CTTTCTACAGGCACATATTTACATGATTTGGATTATACTGATTGCATGTGTGTTTTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---Alacys------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGAGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGTGAAAACCCCCATCTCTAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATACAAACATTAGCCGAGTGTGGTGGTGGTGGCCCTGTAATCCCATCTACCCGGGAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5392 AGGCGACAGCTTTGCTTGAACCCAGGAGGTGGAGGTTGCAGTGAGCTATGRTCATGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   202 AlaValAlaHisAlaCysAsnProSerThrLeuGlyGlyArgGlyGlyArgIleThr***
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5152 TAATTAGACTTAGTGTCTAATGACAATGACTGTTAAGATTCTTGTGTTTATTCCTCTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCTGCTGCTTTTTTAACTAGTCAAAATGATCTAAATATCTTGCTATGTTCCCACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |||:::
| GlyArgGluPheGluThr---SerLeuThrAsnMetGlu------
                                                                                                                                                                                                                                                                                          136EF344AACD12A2 CRC64;
                                                                                                                                                                                                                                                                                                                                     593
196
191
270
21
                                                                                                                                                                                                                                                                                                                                                                     Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                      Matches:
                                                                                                                                                                                                                                                                                                                                     Length:
                                                                                                                                                                                                                                                                                                                                                                                                Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-966-880A-9 (1-5514) x ALU6_HUMAN (1-593)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---***ProGlyValValAlaHis----
                                                                                                                                                                                            FRAME-1.
FRAME-2.
FRAME-3.
FRAME-4.
FRAME-5.
                                                                                                                                                                 EMBL; U14572; -; NOT_ANNOTATED_CDS
              CODING NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                          64603 MW;
                                                                                                                                                                                                                                                                                                                                       2.01e-37
                                                                                                                                                                                                                                                                                                                                                   448.00
34.15%
28.12%
                                                                                                                                                                                                                                                                                                                                                                                                 4.65%
                                                                                                                                                                                Hypothetical protein
                                                                                                                                                                                                                                                                                          A);
                                                                                                                                                                                                                                                                                                                                                                                   Similarity:
                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
                                                                                                                                                                                                                                                                                                                        Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       243
                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                   Query Match:
                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                       ..
9
                                                                                                                                                                                                                                                                                                                                                                                     Best Local
                                                                                                                                                                                                                                                                                                                       Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                      Score:
ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
```

ь 123 123	y 3930 ITITAAAGTCAGGTCIGTCACCTGCACTACAITATAAAATATCAATCTCAATGTATA 3989	3990 TCCACACAAAAGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAAACTA		4050	b 148 -ArgAlaProValValProAlaThrArgGluAlaGluAl 160	4110 AATGGAATACCACCTGCAGTACAAAGGAAGAAGCTACTGGGGATGAATCCCAAAGTCA	<pre>160 aGlyGluSerLeuGluProGlyArgArgArgLeuGln***AlaGluIleAlaProLeuH1</pre>	y 41/0 TGACGTRAATGAAAGAGTCAGACATGAAGGAGGAGATAATGTATGCCATACGAAATCT 4229   :::	4230 AGAAAATGAAAGTAACTTATAGTTAC	b 183 uAlaThrGluArgAsp-SerValSerLysLys*******ProGlyAlaValAlaHisA 203	4290 CCTGTAATCCCAGCACTTTGAGAGGCCACGTGGGAAGATGCTAGAACTCAGGAGTTCAA	203	223 AspHisProGlyGlnHisGlyGluThrPro-SerLeuLeuLysIleGlnLys	4410 AAATCAGTGGTTGTCCTGTGGGAGGGGAAGGACTGCAAAGAGGAAGA	240	4470 GGTG	b 245 yAlaArgLeu***SerGlnLeuGlyArgLeuArgGlnGluAsnArgLeuAsnProGl 265	4503 CTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAAATATTCGTAGAATTATGCATCTTAAA	265 yGlyGlyGlyCysSerGluProArg	4563 TGGGTGGAGTTTACTGTATGTAAATTATACCTCAATGTAAGAAAAATAATGTGTAAGAA	274SerArgHisCysThrPr	y 4623 AAGTTTCAATTCTTGCCAGCAAACGTTATTCAAATTCCTGAGCCCTTTACTTCGCAAA 4682 ::::: b 279 oalaTrpargGlnSerGluThrProSerGlnLysLys*******PhePheLeuArgAr 299	y 4683 ITCICIGCACTICIGCCCGIACCAITAGGIGACAGCACTAGCICCACAAATIGGATAAA 4742	299 gserLeualaLeuserProGlyTrpSeralaValAlaArgSerArgLeuTh	y 4743 TGCATTTCTGGAAAGACTAGGGACAAAATCCAGGCATCACTTGTG	4789CTTTCATATCAACCAGGTGAAAGGGTTGTGTTGCTGTCTGCAGGTGCAATGGGGA	333 U***LEUCLYLEUCLINALAAIGHATIII.III.	4045 CICIIGATITCTITANGGARACIIGGGITAC: CGAGGATITCACAAAA: :: :: :: :: :: :: :: :: :: :: :: :	y 4893 TGCTATTCAAATTAGTGCTTATGATATGCAAGACACTGTGCTAGGAGCCAGAAAAG 4952 
qa	Ş Ş	oy Oy	qa	δÿ	đ	δδ.	ago .	රු අ	Qy	QΩ	δò	8 8	7 음	Qγ	qu	Qy	g	δ	<b>Q</b> O	Q <u>y</u>	<b>q</b> a	Qy Pp	Qy	q	OY DP	Qy	a d	3 A	Qy Dp
-1- CAUTION:	ACTIVELY TRANSCRIBED BY POLITIC NORMAL TRANSCRIPTS MALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGION CONA LIBRRAIES ALSO CONTAIN PARTIAL AND/OR FRARRANCES	LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ELEMENTS (ESPECIALLY SITUATED ON THE COMPLEMENTARY STI	GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE OF AN ALT IN ADDRESS OF SEASONS WAS INVESTIGATED.			<del>:</del>		OT entry is copyright. It is produced through a collabora Swiss Institute of Bioinformatics and the EMBL outstati	the European Bioinformatics Institute. There are no restriction use by non-profit institutions as long as its content is imposfited and this estemant is not removed near the new and for	entities requires a license agreement (See http://www.is or send an email to license@isb-sib.ch).	EMBL; U14571; -;	ore.	DOMAIN 197 291 DOMAIN 295 389	487 585 AA: 63957 MW:	doment grotes.	: 1.01e-35 Length: 43150 Matches	t Similarity: 34.058 ocal Similarity: 26.988	4.47% Indels:	US-09-966-880A-9 (1-5514) x ALU5_HUMAN (1-585)	Qy 3568 TGGCTCACGCTGTAATCCCAGCACTCTGGGAGGCTGAGGTGGGTG		Qy 3628 TGGAGTTCAAGACCAGCCTGAGCAACACGCGAAAACCCTGTTCTATAACAAAA 3681 	3682 ATTAGCCGGCCATGCTGCCTGTGCCTGTGCCACTACTA-GGGGGCTGAGGAGGAGGA		Qy 3741 GAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGCAGTGCTTGCGCCACTGCACTCC 3800	3801 AGCCTGGGACGACGACCTTGCCTAAAAATAAGA	Db 84 lnPro-GlyAspArgAlaArgLeuArgLeuLysLys******AlaGlyArgGlyGly 103	3843	DD 104 SELATGLEU***SEFGINHISFNEGLYARGFTOARGARGALAASPHISGIUVAILYSARG 123 Qy 3870 CTACAAAGACTGTTGTCCTAGATGAGCTACTTAGTTAGGCTGATATTTGGTATTTAAC 3929

```
5309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCA 5429
                                                                                                                            GACTAGTTAAAAAAGCAGCAGAGTACAAAATCACACATGCAATCAGTATAATCCAAATCA 5069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyPheLysArgPheSerCysLeuSerLeuProSerSerTrpAspTyrArgArgAlaPro 439
AGGA - - - GGAGAAATCAGTCATTATGTGGGAACAACATAGCAAGATATTTAGATCATTTT
                                                                                                                                                                                                                                                        TGTAAATATGTGCCTGTAGAAAGACTAGAGGAATAAACACAGAATCTTAACAGTCATTG
                                                                                                                                                                                                                                                                                                                                                                                 TCATTAGACACTAAGTCTAATTATTATTAGACACTATGATATTTGAGATTTAAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claverie J.-M.; "Identifying coding exons by similarity search: alu-derived and other potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5190 TCTTTAATATTTTAAAATTTAGAGCTCTTCTATTTTTCCATAGTATTCAAGTTTGACAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----**AspGlyVal--Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCACACTCGGCTAATGTTTTTTTTTAGTAGATGGGGTTTCACCATGTTGGCCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Quentin Y.; "The Alu family developed through successive waves of fixation closely connected with primate lineage history."; J. Mol. Evol. 27:194-202(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alu subfamily SB sequence contamination warning entry.
                                                              379 aGlylleThrGlyValSerHisArgAlaArg******---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ¥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTCTCAAACTCCTGACCTC 5510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TrpSerArgSerLeuAspLeu 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-95021758; PubMed-7935834; Claverie J.-M., Makalowski W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALU FAMILIES CLASSIFICATION.
MEDLINE-88333009; Pubmed-3138422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-92241891; PubMed-1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nature 371:752-752(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ALU2_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Alu alert.
                                                                                                                                                                                                                                                        2070
                                                                                                                                                                                                                                                                                                                                                                                 5130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    460
                                                                                                                                                                                          391
                                                                                                                                                                                                                                                                                                                  391
                                                                                                                                                                                                                                                                                                                                                                                                                                               391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P39189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CONCEPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ALU2_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ID DATCH THE SECTION OF THE SECTION 
                                                       q
                                                                                                                            ð
                                                                                                                                                                                   g
                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
-1. CAUTION: ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIVELY TRANSCRIBED BY POL III. NORMAL TRANSCRIPTS MAY CONTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTS (ESPECIALLY STUATED ON THE COMPLEMENTARY STRAND) HAVE A GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILLTY THAT THE PRESENCE OF AN ALU IN AN OPER READING FRAME MAY HAVE RESULTED FROM A CLONING ARTIFACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOCKEED ON SEVERAL OCCASIONS, WITH THE CONSEQUENCE OF ERRONBOUS ALU-DERIVED AMINO ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3682 ATTAGCCGGCCATGGTGGCATGTGCCTGTGGTCCCAGCTACTA-GGGGGCTGAGGCAGGA 3740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24 lnGluIleGluThrIleLeuAlaAsnThrValLysProArgLeuTyr***LysTyrLysA 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE
                                                                                                                                THAT ALU REPEATS FALL INTO 8 SUBFAMILIES. THEREFORE, 8 ALU WARNING CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -i- MISCELLANBOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP CODON, 'XXX' IS USED TO SEPARATE THE VARIOUS TRANSLATION PHASES.
-i- CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3628 TGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATAAC-----AAAA
                                                                                            J. Mol. Evol. 32:105-121(1991).
-!- MISCELLANEOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE
                                                                                                                                                                         FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3EAAB3E3E3929203 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62
248
179
26
                                                                        "Reconstruction and analysis of human Alu genes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-966-880A-9 (1-5514) x ALU2_HUMAN (1-587)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FRAME-1.
FRAME-2.
FRAME-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FRAME-5.
FRAME-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FRAME-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; U14568; -; NOT_ANNOTATED_CDS.
                ALU FAMILIES CLASSIFICATION.
MEDLINE=91178815; PubMed=1706781;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CODING NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63703 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3.32e-35
426.50
38.88%
29.99%
4.42%
                                                    Jurka J., Milosavljevic A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA;
                                                                                                                                                                                                                                                                                            ACID SEQUENCES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BEING REPORTED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100
198
296
395
493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local
qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         óλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

=

Oy 4782 AC	4971 406 5031 422 5082 439 439 5142 7000	459 5262 476 5298 496 5358 516 5418 5418	Db 556 Cys***PINGINTPINGINGINGINGINGINGINGINGINGINGINGINGINGI
Sn***ProGlyValValAlaGlyAlaCysSerProSerTyrSerGlyGly***6lyArgA GAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTC [ :::   :::	120 sGluvalArg	4200 GAGGAGATAATGTATGCCATACGAAATTCTAGAAAGTAACTTATAGTTACAGAA 4259 184	CATCTTAAATGGGTGGAGTTTACTGTAAATTATACCTCAATGTAAGAAAAATAAT  CATCTTAAATGGGTGGAGTTTACTGTAAATTATACCTCAATGTAAGAAAAAATAAT  CTGTAAGAAAAGTTTCAATTCTTGCCAGCAACGTTATTCAAATTCCTGAGCCTT
40 60 60 60 60 60 60 60 60 60 60 60 60 60	8 6 6 6 6 6 6	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	

```
ATATTTAGATCATTTTGACTAGTTAAAAAAGCAGCAG 5030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TAATGTTTGTATTTTAGTAGAGATGGGGTTTCACCA 5477
                                                                         GCAGCTGCAATGGGGACTCTTGATTTCTTTAAGGAAA 4865
                                                                                                                                                            ------CAAATGCTATTCAAATTGTGC 4910
                                                                                                                                                                                                                                          TAGGAGCCAGAAACAAAGAGAGGAGAAATCAGTCA 4970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCCATAGTATTCAAGTTTGACAATGATCAAGTATTA 5261
------TTGTGCTTTCAT-----ATCAACCACG 4805
                                                                                                                                                                                                                                                                                                                                                                                                    AGTATAATCCAA-----ATCATGTAAATATGTG 5081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACACAAGAATCTTAACAGTCATTGTCATTAGACACT 5141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTATGATATTTGAGATTTAAAAAATCTTTAATATT 5201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----TTTTTTTTTTTTTGAGA 5297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCTGGAGTGGAATGCCATGAYCATAGCTCACTGCAA 5357
                                                                                                                                                                                                                                                                                                                                                 ::: ||||||||
ValAlaArgSerArgLeuThrAlaSerSerAlaSerA 422
                                                                                                                                                                                                                                                                                                                                                                                                                                   ::: |||
LeuLeuProGlnProProGlu***LeuGlyLeuGlnA 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ::: ||| :::|
PheLeuTyrPhe*****ArgArgGlyPheThrValL 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       :::||| :::|||
SerAlaArgLeuGly------LeuProLysC 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           :::||| : SerIleSer***ProArgAspProProAlaSerAlaS 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuValGluThrGlyPheHisArgValSerGlnAspG 364
                                                                                                                                                                                                  ProArgProAla*******PhePhe***AspGlyV 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aniata; Vertebrata; Euteleostomi; tarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cation update)
nination warning entry.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCCTGACCTC 5510
::|||||||||||
erProAspLeu 566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      587 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ince update)
```

Mismatches: Indels:

Best Local Similarity: 24.64%

Query Match:

Gaps:

```
PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIVELY TRANSCRIBED BY POL III. NORMAL TRANSCRIPTS MAY CONTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CONAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTS (ESPECIALLY SITUATED ON THE COMPLEMENTARY STRAND) HAVE A GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AN ALU IR AN OPER NEADING FRAME MAY HAVE RESULTED FROM A CLONING ARTIFACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOKED ON SEVERAL OCCASIONS, WITH THE PRINCES AND ALL SHOULD BE CONSEQUENCE OF ERRONEOUS ALU-DERIVED AMINO ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                MOL. Evol. 32:105-121(1991).
- MISCELLANEOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE THAT ALU REPEATS FALL INTO 8 SUBFAMILIES. THEREFORE, 8 ALU WARNING CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE CODING NUCLEOTIDE SEQUENCE.
                                                                                             potentially misleading protein sequences.";
Genomics 12:838-841(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MISCELLANBOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP CODON, 'XXX' IS USED TO SEPARATE THE VARIOUS TRANSLATION PHASES. CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                                                                    of fixation
                                                                                                                                                                                                                                                                The Alu family developed through successive waves
                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-91178815; PubMed-1706781;
Jurka J., Milosavljevic A.;
"Reconstruction and analysis of human Alu genes.";
                                                                                                                                                                                                                                                                                       closely connected with primate lineage history."; J. Mol. Evol. 27:194-202(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FRAME-1.
FRAME-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; U14568; -; NOT_ANNOTATED_CDS.
                                                                                                                                                                                                                         MEDLINE-88333009; PubMed-3138422; Quentin Y.;
                                                                              MEDLINE-92241891; PubMed-1572661;
                                                                                                                                                                                                      FAMILIES CLASSIFICATION
                                                                                                                                                                                                                                                                                                                                                 FAMILIES CLASSIFICATION
                 Nature 371:752-752(1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hypothetical protein
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BEING REPORTED
  'Alu alert.";
                                                           CONCEPT
```

3EAAB3E3E3929203 CRC64;

63703 MW;

587 AA;

FRAME-4. FRAME-5. FRAME-3

100 198 296 395 493

DOMAIN DOMAIN DOMAIN DOMAIN

587 169 35

Length: Matches: Conservative:

1.49e-33 410.50 29.74%

Percent Similarity:

Alignment Scores: DOMAIN SEQUENCE

```
5390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5030
                                                                                                                                                                   3389 CGACAGCTTTGCTTGAACCCAGGAGGTGGAGGTTGCAGTGAGCTATGRTCATGCCATTCC 5330
                                                                                                                                                                                                                                                                                                     5269 AGAAAGAGTAATACTTGATCATTGTCAAACTTGAATACTATGGAAAAATAGAAGAGCTCT 5210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGAGCTAGTGCTGTCACCTAATGGTACGGGGCAGAAGTGCAGAAATTTGCGAAGTAAA 4670
                                                                                                                                                                                                                                  5209 AAATTTTAAAATATTAAAGATTTTTTAAATCTCAAATATCATAGTGTCTAATAATAATAA 5150
                                                                                                                                                                                                                                                                                                                                                                                                         292
                                                                                                                                                                                                                                                                                                                                                                                                                                          5149 TTAGACTTAGTGTCTAATGACAATGACTGTTAAGATTCTTGTGTTTATTCCTCTAGTCTT 5090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4969 GACTGATTTCTCCTCCTCTTTGTTTTCTGGCTCCTAGCACAGTGTCTTGCATATCATAAG 4910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1909 CACTAATTIGAATAGCATTIGIGGAAATACTCIGGTAACCCAAGTTTCCTTAAAGAAATC 4850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4849 AAGAGTCCCCATTGCAGCTGCAGACACACACAAGCTGTACAGCGTGGTTGATATGAAA 4790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4789 GCACAAGTGATGCCTGGATTTTGTCCCTAGTCTTTTCCAGAAATGCATTTATCCAATTTG 4730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1669 GGGCTCAGGAATTTGAATAACGTTTGCTGGCAAGAGAATTGAAACTTTTCTTACACATTA 4610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1549 ATTCTACGAATATTTTTGGATGTAAACACCCCCAAACTGCTACCACAGTCAGGATACAGAA 4490
                                                 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        341
                                                                                                                                 GlnLysLeuAlaGlyArgGlyGlyGlyArgLeu***SerGlnLeuLeuGlyArgLeuArg 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5509 AGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGTGAAAACCCCCATCTCTACTAAAAATA
                                                                                                                                                                                                 GingluAsnGlyValAsnProGlyGlyGlyAlaCysSerGluProArgSerArgHisCys
                                                                                                                                                                                                                                                     ****PhePheLeuArgArgSerLeuAlaLeuSerProArgLeuGluCysSerGlyAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4609 TTTTTTCTTACATTGAGGTATAATTTACATACAGTAAACTCCACCCATTTAAGATGCATA
                                                                                                5449 CAAACATTAGCCGAGTGTGGTGGTGGCGCCTGTAATCCCATCTACCCGGGAGGCTGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5029 IGCIGCTITITIAACTAGICAAAAIGAICIAAAIAICIIGGIAIGIIGIICCCACAIAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              314 eSerAlaHisCysLysLeuArgLeuProGlySerArgHisSer----
US-09-966-880A-9 (1-5514) x ALU2_HUMAN (1-587)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   339 rGlyAla---
                                                                                                                                                                                                  259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          341
                                                                                                                                 239
                                                                                                                                                                                                                                                                                                                                                                                                         292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                328
                                 Óγ
                                                               g
                                                                                                ò
                                                                                                                                 g
                                                                                                                                                                   à
                                                                                                                                                                                                 Dβ
                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                   òγ
                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
```

```
3840
                                                     4370
                                                                                                                                                                                                                                                                                                                    4124
                                                                                                                                                                                                                                                                                                                                                                        4064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3740
                                                                                                                                                                                                                                                                 4172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1003 AGTCTTTGTGTGGATATACATTGAGAATTGATATTTTAATAATGTAGTGCAGGTGACAGA 3944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTTGTTAT-----AGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAG 3627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCTCAAGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCAC 3567
                                                                                                                                                            4281
                                                                                                                                                                                                                                                                                                                                                                                                                         063 ATTTGGATAGTCTCTACTTTGGGGTTTTGTGAATAAAGGTACTATGAACATTCACGTACC 4004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCTGCCTCAGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCACCATGCCCGGCTAATT 3681
                                                                                                                                                                                                                                       418
                                                                                                                                                                                                                                                                                                                                              445
                                                                                                                                                                                                                                                                                                                                                                                                                                                     453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      545
                                                                                                                                  378
                                                                                                                                                                                                                                                                                           428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        565
                           346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         455 lyPheThrValLeuAlaArgMetValSerIleSer***ProArg------AspP 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               erHisArgAlaArg*******PhePheGluThrGluSerArgSerValAlaGlnAlaG 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           584
                                                                                                                             sArgValSerGlnAspGlyLeuAspLeuLeuThrSer***SerAlaArgLeu-GlyLeuP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTGAATCACCACCTCACCCCACCAGAGCTTCTTCCTTTGCAGTCCTTCCCCTCCC
                                                   CACAGGACAACCACTGATTTGCTTTTTTTTTCCCATTTTTGTGGAGAATGGAGTTTCA
                                                                           ...----LeullePheValPheLeuValGluThrGlyPheHi
                                                                                                      CTGTGTTGCCCAGGCTGGTCTTGAACTCCTGAGTTCTAGCAATCTTCCCACGTGGCCTCT
                                                                                                                                                                       CTAGAATTTCGTATGGCATACATTATCTCCTTCATGTCTGACTCTTTCATTTAGCGT
                                                                                                                                                                                                                                                                                                                  1171 CATGACTTTGGGATTCATCCCCAAGTAGCTTCTTCCTT------TGTACTGCAG
                                                                                                                                                                                                                                                                                                                                            ------ProGlnProProGlu***LeuGlyLeuGlnAlaProAlaThrThrProG
                                                                                                                                                                                                                                                                                                                                                                      4123 GGTGGTATTCCATTGCATGGATATAGCACATTTTGTTTATTTGTTCACTTGTTGATGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -------TATTTTTGAGGCAAGGTCTGGTCAGGTCCAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGGCTCCAAAGATTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      erCysLeuSerLeuProSerSerTrpAspTyrArgArgProProProArgProAlaAsnP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ------CTATGCCTGCCTGATTTGCTTTCTGTAACTATAAGTTACATTTTT
                                                                                                                                                                                                                                      spGlyValSerLeuCysArgProGlyTrpSerAlaValAlaArgSerArgLeuThrAlaS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACAGCTCTTTGTAGTTGTTTCCATTTATTTTTAATTTTTCTTCT.
                                                                                                                                                                                                                                                                                          erSerAlaSer---ArgValHisAlaIleLeuLeu----
                                                                                                                                                          CAAAGTGCTGGGATTACAGGTGTGAGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----LeuTyrPhe*****Arg----
                         ----ArgHisHisAlaArg-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACACCTGGC 3557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rAlaProGly 587
                                                                                                                                                                                                                                                                                                                                                                                               ly***Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3626
                                                                            347
                                                                                                      1369
                                                                                                                                                                                    378
                                                                                                                                                                                                              1280
                                                                                                                                                                                                                                                                4231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3739
                                                                                                                                358
                                                                                                                                                          309
                                                                                                                                                                                                                                                                                          418
                                                                                                                                                                                                                                                                                                                                            429
                                                                                                                                                                                                                                                                                                                                                                                                                                                   448
                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                   ò
                                                                        g
                                                                                                    ŏ
                                                                                                                             g
                                                                                                                                                       ογ
                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
-1-CAUTION: ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIVELY TRANSCRIBED BY POL III. NORMAL FRANSCRIPTS MAY COMPAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTS (ESPECIALLY STUATED ON THE COMPLEMENTARY STRAND) HAVE A GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AN ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A CLONING ARTIFACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOOKED ON SEVERAL OCCASIONS, WITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALU FAMILIES CLASSIFICATION.
MEDLINE=91178815; Pubbed=1706781;
Murka J., Milosavljevic A.;
"Reconstruction and analysis of human Alu genes.";
J. Mol. Evol. 32:105-121(1991).
-! MISCELLANGROUS: WARTIOUS ANALLISES (SEE REF.3 AND REF.4) INDICATE
-! THAT ALU REPEATS FALL INTO 8 SUBRAMILIES. THEREPORE, 8 ALU WARNING
CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFFACTUALLY INCLUDED IN THE
                                                                                                                                                                                                                                                                                                                                                           potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FURTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CODON, 'XXX' IS USED TO SEPARATE THE VARIOUS TRANSLATION PHASES. CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHI POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               closely connected with primate lineage history.";
J. Mol. Evol. 27:194-202(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MISCELLANEOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A
                                                                           16-OCT-2001 (Rel. 40, Last annotation update)
Alu subfamily SB1 sequence contamination warning entry.
AA.
587
                                    (Rel. 31, Created)
(Rel. 31, Last sequence
                                                                                                                                                                                                                                 PubMed=7935834;
                                                                                                                                                                                                                                                                                                                                                   MEDLINE=92241891; PubMed=1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALU FAMILIES CLASSIFICATION.
MEDLINE-88333009; PubMed-3138422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CODING NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                   Claverie J.-M., Makalowski
                                                                                                                                                                                                                                                                                          Nature 371:752-752(1994).
STANDARD;
                                                                                                                 Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACID SEQUENCES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BEING REPORTED
                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE=95021758;
                                    (Rel.
                                                                                                                                                                        NCBI_TaxID=9606;
                                    01-FEB-1995
HUMAN
                                                                                                                                                                                                                                                                       'Alu alert
                                                                                                                                                                                                                                                                                                                                CONCEPT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>:</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -
```

															-					<del></del>
}		3627	24	3681 44	3740 64	3800	3860	99 3920	6	3980	4040	115	0	35	4106 155	4150	175	4208	189	4268
an email to license@isb-sib.ch). 4569; .: NOT_ANNOTATED_CDSical protein. 1 96 FRAME-1. 100 194 FRAME-2. 198 292 FRAME-3. 296 391 FRAME-3. 395 489 FRAME-5. 493 587 FRAME-6. ; 587 AA; 63573 MW; 85C4155726DEF235 CRC64;	es: 6.35e-31 Length: 587 385.00 Matches: 193 rity: 32.05% Conservative: 56 illarity: 24.84% Mismatches: 341 i Gaps: 24	9 (1-5514) x ALU3_HUMAN (1-587) TGGTTCACGCTGTAAFCCCAGCACTTGGGAGGCTGAGGTGGATCGCTTGAGCCC	TITITITITITITITITITITITITITITITITITITI	<pre>TGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATAACAAAA                                    </pre>	ATTAGCCGGGCATGGTGGCTGTGGTCCCAGCTACTA-GGGGGCTGAGGCAGGA 	GAATCITIGGACCCAGGAGGTCAAGGCIGCACTGAGCAGTGCTIGGCACTGCACT	ATA	InProGlyArgGlnSerGluThrProSerGlnLySLyS*********************************		TATTTAACTTTTAAAGTCAGGTCTGTCACCTGCACTACTATTAAAATATCAATT	Argleu***SerGlihtts- CAATGTATATCCACACAAAGACTGGTACGTGAATGTTCATAGTACCTTTATTCACAAAC	::  	CCAAAGTAGAGACTAT	oArgArgAlaAspHisGluValArgArgSerArgProSerArgLeuLysAr;	ATATAAACAAATGTGCT	TGCAATGGAATACCACCCTGCAGTACAAAGGAAGAAGCTACTTG	gGluPro	GGGATGAATCCCAAAGTCATGACGCTAAATGAAAGAGTCAGACATGAAGGAGATA :::     :::    :::	GlyAspArgAla	AIGTATGCCATACGAAATTCTAGAAATGAAAGTAACTTATAGTTACAGAAAGCAAATCA ::    :::
or send an ema EMBL: U14569; Hypothetical p DOMAIN 19 DOMAIN 19 DOMAIN 39 DOMAIN 49 SEQUENCE 587	Alignment Scores: Pred. No.: Score: Score: Fercent Similarit Best Local Simila Query Match:	-966-880A 3568	S	3628	3682	3741	3801	3861	66	3921	100 3981	112	4041	115	4082	4107	155	4151	175	4209
CC CC DR FT FT FT SQ	Alignment Pred. No. Score: Percent S Best Loca Query Mat. DB:	US-09 QY	qq	Oy Dp	Qy	Qy	δλ	<b>a</b> 2	유	0y	g &	qq	ογ	<del>g</del>	Qy Dp	οy	qq	Qy	qq	Qy Dp

```
5284
                                                                                                                                                        5291
                                                                                                                                                                                                        5351
                                                                                                                                                                                                                                                                                                              5471
                                                                                                                                                                                                                                                            5411
5175 TTGAGATTTAAAAAATCTTTAATATTTTAAAATTTAGAGCTCTTCTATTTTCCATAGTA 5234
                                                                                                                                                                                                                                                                                    533
                                                                                                                                                                                494
                                                                                                                                                                                                                                   513
                                                                           ------GlnAlaProAlaThrThrProGly***PheLeuTyrPhe****ArgA 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    454 rgGlyPheThrValLeuAlaGlyMetValSerIleSer***ProArgAspProProAlaS
                                                                                                                                                                               erAlaSerGlnSerAlaGlyIleThrGlyValSerHisArgAlaArg*******PheP
                                                                                                                                                                                                        5292 TTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCA
                                                                                                                                                                                                                     CTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGG
                                                                                                                                                                                                                                                                         GATTACAGGCGCCCACCACCACCACTCGGCTAATGTTTGTATTTTAGTAGAGATGGGGTT
                                                                                                                                                                                                                                                                                                                                      534 AspTyrArgArgProLeuArgProAlaAsnPheCysIlePheSerArgAspGlyVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Identifying coding exons by similarity search: alu-derived and other potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Cranlata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The Alu family developed through successive waves of fixation
                                                 5235 TICAAGTITGACAAIGAICAAGIATIACICITITCITITITITITITIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alu subfamily SC sequence contamination warning entry.
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                              5472 TCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTC 5510
                                                                                                                                                                                                                                                                                                                                                                             closely connected with primate lineage history."; J. Mol. Evol. 27:194-202(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                            Ą.
                                                                                                                                                                                                                                                                                                                                                                                                                                           585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALU FAMILIES CLASSIFICATION.
MEDLINE-91178815; PubMed-1706781;
Jurka J., Milosavljevic A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. MEDLINE-95021758; PubMed-7935834;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALÚ FAMILIES CLASSIFICATION.
MEDLINE-88333009; PubMed-3138422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-92241891; PubMed-1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claverie J.-M., Makalowski W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Alu alert.";
Nature 371:752-752(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claverie J.-M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                        ALU5_HUMAN
P39192;
                                                                                                     5284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Quentin Y
                                                                                                                                                       5285
                                                                                                                                                                               474
                                                                                                                                                                                                                                                          5352
                                                                                                                                                                                                                                                                                                            5412
                         437
                                                                           438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONCEPT
                                                                                                                                                                                                                                                                                                                                                                                                                               ALU5_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 13
                                                                                                  ολ
                                                                                                                         g
                                                                                                                                                     õ
                                                                                                                                                                         QQ
                                                                                                                                                                                                   δ
                                                                                                                                                                                                                              QQ
                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                     Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                 õ
                                                                        g
                                                                                                                                                                                                                                                        ò
```

```
Lie European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isp-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                          ACID SEQUENCES.

CAUTION: ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACITVELY TRANSCRIBED BY POL III. NORMAL TRANSCRIPTS MAY COMTAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTS (ESPECIALLY SITUATED ON THE COMPLEMENTARY STRAND) HAVE A GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AN ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A
                                                                                                                                                                                                                                                                                                                                                                                                      CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5494 GACCAGCCTGGCCAACATGGTGAAACCCCATCTCTACTAAAAATACAAACATTAGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5434 TGTGGTGGTGGCGCCTGTAATCCCATCTACCCGGAGGCTGAGGCGACACTTTGCTTG
                                                                                                                                                                                                                                                                                                                            CLONING ARTIFACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOOKED ON SEVERAL OCCASIONS, WITH THE CONSEQUENCE OF ERRONEOUS ALU-DERIVED AMINO ACID SEQUENCES
                                  MISCELLANDOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP CODON, 'XXX' IS USED TO SEPARATE THE VARIOUS TRANSLATION PHASES. CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   46EE8C4F493650A7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              585
176
25
130
130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-966-880A-9 (1-5514) x ALU5_HUMAN (1-585)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FRAME-1.
FRAME-2.
FRAME-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FRAME-4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; U14571; -; NOT_ANNOTATED_CDS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CODING NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Μ<u>Ψ</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            376.50
29.39%
25.73%
3.91%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hypothetical protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                                                                                                                                                      BEING REPORTED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
197
295
393
491
585 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                          - ---
                                        <del>|</del>-
ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
```

5254 TGATCATTGTCAAACTTGAATACTATGGAAAAATAGAAGAGCTCTAAATTTTAAAATATT 5195

293

293

282

263

3374 AACCCAGGAGGTGGAGGTTGCAGTGAGCTATGRTCATGCCATTCCACCACCATGGGCA

243 ArgGlyGlyAlaArgLeu\*\*\*SerGlnLeuLeuGlyArgLeuArgGlnGluAsnArgLeu

5194 AAAGATTTTTTAAATCTCAAATATCATAGTGTGTTAATAATAATAATTAGTCATTAGTGTCT 5135	
	Dp 487
294**PhePhe 296	4
5134 AATGACAATGACTGTTAAGATTCTTGTGTTTATTCCTCTAGTCTTTCTACAGGCACATAT 5075	787
297	
5074 TIACATGATTTGGATTATACTGATTGCATGTGTGATTTTGTACTCTGCTGCTTTTTTAAC 5015	4084
303 303	84
5014 TAGTCAAAATGATCTAAAATATCTTGCTATGTTGTTCCCACATAATGACTGATTTCTCCTC 4955	4
304SerProG 306	487
4954 CICTITGITITCIGGCTCCIAGCACAGTGTCTTGCATATCATAAGCACTAATTTGAATAG 4895	m
306 lyTrpSerAlaValAlaArgSerArgLeu	487
4894 CATTIGIGGAAATACICIGGTAACCCAAGITICCITAAAGAAATCAAGAGTCCCCATIGC 4835	m
315 315	488
	3844
316ThralaThrSerala320	488
GGATTTTGTCCCTTAGTCTTTTTTCCAAAAAGGAAATGCATTTAATCCAATTTGTCCAATTTTGTCTAGTGCTTGT	Qy 3784 AGCACTGCTCAC
	Db 508 IleSerAlaHis
לבר בין היים היים היים היים היים היים היים הי	Qy 3724 TA-GTAGCTGGG
CACCTAATGGTACGGGGCAGAAGTGCAAGTTTGCGAAGTAAAGGGCTCAGGAATTTG	Db 528 ArgValAlaGly
roProGlu***LeuGlyLeuGlnAlaArgAlaThrThrProSer***PheLeuTyrPhe*	Qy 3671 GAAACAGGG1
4654 AATAACGTTIGCIGGCAAGAGAATIGAAACTITICITACACAITAIT 4607	
351 ****ArgArgGlyPheThrMetLeuAlaArgMetValSerIle 365	3611
4606 TITCTIACATTGAGGIATAATTTACATACAGTAAACTCCCACCATTTAAGATGCATAATT 4547	5.67
366	700
4546 CTACGAATATTTTGGATGTAAACACC 4520	33.
   178 eralaglylleThrGlyValSerHisArgAlaArg*******PhePhe**AspGlyV 398	
4519 CCAAACTGCTACCACAGTCAGGATACAGAACCTGAATCACCACCTCACCCCACCAGAGC 4460	01-FEB-1995
398 alSerLeuCysArgGlnAlaGlyValGlnTrpArgA 410	DT 16-OCT-2001 (Mel. 40) DE Alu subfamily SB1 sec
4459 TICITCCCICITIGCAGICCITCCCCTCCCCAGAGACAACCACIGAITIGCITICITIT 4400	
4399TITCCCATITITGIG 4385	
430 ProSerSerTrpAspTyrArgArgAlaProProArgProAlaAsnPheCys1lePheSer 449	RA Claverie JM., Maka
4384 GAGAATGGAGTTTCACTGTGTTGCCCAGGCTGGTCTTGAACTCCTGAGTTCTAGCAATCT 4325	
450 ArgaspGlyValSerProCysTrpProGlyTrpSer-ArgSerLeuAspLeuVallleAr 469	
4324 TCCCACGTGGCCTCTCAAAGTGCTGGGATTACAGGTGTGAGCCTCTATGCCTGCTGAT 4265	
469 gproproArgProProLysValLeuGlyLeuGlnAla***AlaThrAlaProGly 487	RT potentially mislead RI. Genomics 12:838-84
4264 TIGCITICIGIAACIAIAAGITACITICATITICIAGAATITICGIAIGGCAIACAITAIC 4205	
487	RX MEDLINE-88333009; Pul RA Quentin Y.;
	ANTGACAMAGACTOTAAGATTCTTGTGTTTATTCCTCTAGTCTTTCTACAGGCACATAT  THACATGATTTGGATTATACTTGTGTTTATTCCTCTAGTCTTTCTACAGGCACATAT  THACATGATTTGGATTATACTTGTTTGTTTTTTGTACTTGTTTTTTTT

```
TTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAGCGATCCA 3612
4204 TCCTCCTTCATGTCTGACTCTTTCATTTAGCGTCATGACTTTGGGATTCATCCCCCAAGTA 4145
                                                                                                            rgitgatggatatttggatagtctctactttggggttttgtgaataaagg 4025
                                                                                                                                                                  ATTCACGTACCAGTCTTTGTGTGGATATACATTGAGAATTGATATTTTAA 3965
                                                                                                                                                                                                                        CAGGTGACAGACCCTGACTTTAAAAGTTAAATACCAAAATATCAGCCTAA 3905
                                                       TIGIACTGCAGGGTGGTATTCCATTGCATGGATATAGCACATTTTGTTTA 4085
                                                                                    487
                                                                                                                                                                                                                                                     487
                                                                                                                                                                                                                                                                                                          488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           exons by similarity search: alu-derived and other ing protein sequences."; (1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ).
Chordata; Craniata; Vertebrata; Euteleostomi;
Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11, Created)
11, Last sequence update)
10, Last annotation update)
equence contamination warning entry.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT; 587 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ubMed=7935834;
alowski W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ubMed-1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FICATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DARD;
```

```
-!-CAUTION: ALLO REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIONE. THEN ARE ACTIONES. THEN ALLO PERIVED. TERNOGRIBED BY POL III. NORMAL TRANSCRIPTS MAY CONTAIN ALLO-DERIVED SEQUENCES IN 5' OR 3' UNTRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTS (ESPECIALLY SITUATED ON THE COMPLEMENTARY STRAND) HAVE A GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AM ALU IN AN OPEN READING FRAME MAY HAVE RESULTED FROM A CLONING ARTIFACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BEEN OVERLOKED ON SEVERAL OCCASIONS, WITH CONSEQUENCE OF ERRONEOUS ALU-DERIVED AMINO ACID SEQUENCES
                                                                                              MEDLINE-91178815; PubMed=1706781;
Jurka J., Milosavljevic A.;
Jurka J., Milosavljevic A.;
J. Mol. Evol. 32:105-121(1991).
-1- MISCELLANEOUS: VARIOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE THAT ALU REPEATS FALL INTO 8 SUBFANILES: THEREFORE, 8 ALU WARNING CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BEING REPORTED.

CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE
                                                                                                                                                                                                                                                                                          MISCELLANEOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP CODON, 'XXX' IS USED TO SEPRATE THE VARIOUS TRANSLATION PHASES. CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
"The Alu family developed through successive waves of fixation
                      primate lineage history.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CODING NUCLEOTIDE SEQUENCE.
                                       Mol. Evol. 27:194-202(1988).
                                                                                 ALU FAMILIES CLASSIFICATION.
                      closely connected with
                                                                                                                                                                                                                                                                                                                                                                                  ACID SEQUENCES.
```

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).

85C4155726DEF235 CRC64; FRAME-1. FRAME-2. FRAME-3. FRAME-4 FRAME-5 FRAME-6 EMBL; U14569; -; NOT\_ANNOTATED\_CDS. 96 00 194 8 292 391 489 587 63573 MW, Hypothetical protein 100 198 296 395 493 587 AA; Alignment Scores: SEQUENCE DOMAIN DOMAIN DOMAIN DOMAIN

587 167 37 136 346 15 Length: Matches: Conservative: Mismatches: Indels: Gaps: 4.33e-28 362.50 29.82% 24.42% 3.77% Best Local Similarity: Percent Similarity: Query Match Pred. No.: Score:

US-09-966-880A-9 (1-5514) x ALU3\_HUMAN (1-587)

à

5509 AGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGTGAAACCCCCATCTCTACTAAAAATA 5450

	238	5390	258
	219 ArgSerGlyAspArgAspHisProGly***AsnGlyGluThrProSerLeuLeuLysIle 238	5449	239 GlnLysLeuAlaGlyArgSerGlyGlyArgLeu***SerGlnLeuLeuGlyArgLeuArg 258
1	21	544	23
,	QQ	οy	Q Q

```
4669 GGGCTCAGGAATTTGAATAACGTTTGCTGGCAAGAGAATTGAAACTTTTCTTACACATTA 4610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4609 ITTITICITACATIGAGGIATAATITACATACAGIAAACICCACCCATITAAGAIGCAIA 4550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4549 ATTCTACGAATATTTTGGATGTAAACACCCCAAACTGCTACCACAGTCAGGATACAGAA 4490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4489 CCTGAATCACCACCTCACCCCACCAGAGCTTCTTCCCTCTTTGCAGTCCTTCCCCTCCC 4430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4429 CACAGGACAACCACTGATTTGCTTTTTTTTTTTCCCATTTTTGTGGAGAATGGAGTTTCA 4370
5389 CGACAGCTTTGCTTGAACCCAGGAGGTGGAGGTTGCAGTGAGCTATGRTCATGCCATTCC 5330
                                                                                                                                                  5209 AAATTTTAAAATATTAAAGATTTTTAAATCTCAAATATCATAGTGTCTAATAATAATAA 5150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5089 TCTACAGGCACATATTTACATGATTTGGATTATACTGATTGCATGTGTGATTTTGTACTC 5030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5029 IGCTGCTTTTTTAACTAGTCAAAATGATCTAAATATCTTGCTATGTTGTTCCCACATAAT 4970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4969 GACTGATTTCTCCTCCTCTTTGTTTTCTGGCTCCTAGCACAGTGTCTTGCATATCATAAG 4910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4909 CACTAATTTGAATAGCATTTGTGGAAATACTCTGGTAACCCAAGTTTCCTTAAAGAAATC 4850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4849 AAGAGTCCCCATTGCAGCTGCAGACAGCAACACACAGCTGTACAGCGTGGTTGATATGAAA 4790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4789 GCACAAGTGATGCCTGGATTTTGTCCCTAGTCTTTTCCAGAAATGCATTTATCCAATTTG 4730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4729 TGGAGCTAGTGCTGTCACCTAATGGTACGGGGCAGAAGTGCAGAGAATTTGCGAAGTAAA 4670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           294 ****PhePheLeuArgArgSerLeuAlaLeuSerProArgLeuGluCysSerGlyGlyIl 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             336 days and a second and a second and a second 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  336 aglyThr----ThrGlyAlaArgHisTy
                                           5149 TTAGACTTAGTGTCTAATGACAATGACTGTTAAGATTCTTGTGTTTATTCCTCTAGTCTT
                                                                                                                                                                                                                                                                                                         5269 AGAAAGAGTAATACTTGATCATTGTCAAACTTGAATACTATGGAAAAATAGAAGAGCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      314 eSerAlaHisCysLysLeuArgLeuProGlySerArgHisSer------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----ProAlaSerAlaSer------
                                                                                                                                                                                                  344 r-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          345
                                                                                                                                                                                                                                                                                                                                                                                    292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ōλ
                                                                   qq
                                                                                                                                              ŏ
                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                     φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
```

SEQUENCE FROM N.A.

```
4232
                                                                                                                                      4197
                                                                                                                                                                                                                                                                                                                                                                                                       4031 ATAAAGGTACTATGAACATTCACGTACCAGTCTTTGTGTGGGATATACATTGAGAATTGAT 3972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4196 CATGTCTGACTTTTCATTTAGCGTCATGACTTTGGGATTCATCCCCAAGTAGCTTCTTC 4137
                                                                                                                                                                                                                                                                                                                                    4080 ------TTCACTTGTTGATGGATATTTGGATAGTCTCTACTTTGGGGTTTTGTGA 4032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3971 ATTTTAATAATGTAGTGCAGGTGACCAGACCCTGACTTTAAAAGTTAAATACCAAAATATC 3912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3791 IGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3731 AGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCCACCATGCCCGGCTAATTTTGTTAT 3673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----AGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3618 CGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCACCACACCTG 3559
                                                                                                                                                                413 erArgLeuThrAlaSerSerAlaSerArgValHisAlaIleLeuLeuProGlnProProL 433
                                                                                                                                                                                                                                                                                                     -----***PheLeuTyrPhe*** 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ------AlaSerAlaSerGlnSerAlaGlyIleThrGlyValSerHis-Arg 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            488 AlaArg*******PhePheGluThrGluSerArgSerValAlaGlnAlaGlyValGln 507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         378 roLysCysTrpAspTyrArgArgGluProProArgProAla*******PhePhe***A
                                                                ------CTATGCCTGCCTGATTTGCTTTCTGTAACTATAAGTTACTTTCATTTT
                                                                                              398 spGlyValSerLeuCysArgPro------GlyTrpSerAlaValAlaGlyS
                                                                                                                                        - TCTCCTCCTT
                                                                                                                                                                                                                                                                    4136 CTTTGTACTGCAGGGTGGTATTCCATTGCATGGATATAGCACATTTTGTTTATTG----
                                                                                                                                                                                                                                                                                                                                                                                                                                      459 euAlaGlyMetValSerIleSer**Pro------------------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3851 AATTITCTICITATITITIGAGGCAAGGICIGGICCIGICACCCAGGCIGGAGIGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         548 PheSerArgAspGlyValSerProPhe***ProGlyTrpSerArgSerProAspLeu--V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     469 ------ArgAspProPro-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi;
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                   433 ys***LeuGlyLeuGlnAlaProAlaThrThrProGly------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Alu subfamily SB2 sequence contamination warning entry.
Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euta
                                                                                                                                    -----ATACATTA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          603 AA.
                                                                                                                                                                                                                                                                                                                                                                      452 **ArgArgGlyPheThr--------
4309 CAAAGTGCTGGGATTACAGGTGTGAGCCT
                                                                                                                                 CTAGAATTTCGTATGGC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GC 3557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALU4_HUMAN
P39191;
                                                              1280
                                                                                                                                  4231
                                                                                                                                                                                                                                                                                                     446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALU4_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 15
                               g
                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                  õ
                                                                                              g
                                                                                                                                 ò
                                                                                                                                                                g
                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AX OCC DE DIT
```

```
its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -1-CAUTION ALU REPETITIVE SEQUENCES ARE INTERSPERSED IN HUMAN AND PRIMATE GENOMES WITH AN AVERAGE SPACING OF 4 KB. SOME OF THEM ARE ACTIVELY TRANSCRIEDS AND YOUNGED SEQUENCES IN 5' OR 3' UNPRANSCRIEDS MAY COWPAIN ALU-DERIVED SEQUENCES IN 5' OR 3' UNPRANSLATED REGIONS. HOWEVER, CDNA LIBRARIES ALSO CONTAIN PARTIAL AND/OR REARRANGED CDNAS LIGATED WITH ALU-DERIVED SEQUENCE IN ANY ORIENTATION. ALTHOUGH ALU ELEMENTS (ESPECIALLY SITUATED ON THE COMPLEMENTARY STRAND) HAVE A GREAT POTENTIAL TO CREATE ADDITIONAL/ALTERNATIVE EXONS, CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT THE PRESENCE OF AN ALU IN AN OPEN READITIONAL/ALTERNATIVE EXONS, CLONING ARTIFACT OR MAY BE DUE TO MISINTERPRETATION OF SEQUENCING DATA. THIS POINT HAS BED OVER TO SEQUENCING THE CONSEDENCE OF ERRONEOUS ALU-DERIVED AMINO ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAUTION: ANY SIGNIFICANT SIMILARITY OF A PUTATIVE PROTEIN SEQUENCE WITH AN ALU-TRANSLATED ENTRY MUST BE TAKEN AS A WARNING THAT A PART OF ALU REPEAT MAY HAVE BEEN ARTIFACTUALLY INCLUDED IN THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commerc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WARNING
                                                                                                                                                                                                                                                                                   "Identifying coding exons by similarity search: alu-derived and other potentially misleading protein sequences."; Genomics 12:838-841(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -i- MISCELLANEOUS: ISOLATED 'X' INDICATES THE PRESENCE OF A STOP CODOM, 'XXX' IS USED TO SEPARATE THE VARTOUS TRANSLATION PHASES.
-i- CAUTION: THIS ALU ENTRY IS PROVIDED IN ORDER TO AVOID THE FURTHER POLLUTION OF PROTEIN SEQUENCE DATABASES WITH ALU-DERIVED AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOI. EVOI. 32:105-121(1991).

MISCELLANEOUS: VARTOUS ANALYSES (SEE REF.3 AND REF.4) INDICATE THAT ALL REPEATS FALL INTO 8 SUBFAMILIES. THEREFORE, 8 ALU WARN CONSENSUS SEQUENCES HAVE BEEN CONSTITUTED THAT CONTAIN ALL SIX FRAMES CONCEPTUAL TRANSLATIONS OF EACH OF THESE CLASSES OF ALU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The Alu family developed through successive waves of fixation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BBAADOAD46BEA114 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-91178815; PubMed-1706781;
Jurka J., Milosavljevic A.;
Reconstruction and analysis of human Alu genes.";
J. MOL. Evol. 32:105-121(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               closely connected with primate lineage history." J. Mol. Evol. 27:194-202(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FRAME-1.
FRAME-2.
FRAME-3.
FRAME-4.
FRAME-5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; U14570; -; NOT_ANNOTATED_CDS.
                          PubMed=7935834;
                                                                                                                                                                                                                                                                                                                                                                                                                   ALU FAMILIES CLASSIFICATION.
MEDLINE-88333009; Pubmed-3138422;
                                                                                                                                                                                                                   MEDLINE-92241891; PubMed-1572661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CODING NUCLEOTIDE SEQUENCE.
                                                     Claverie J.-M., Makalowski W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALU FAMILIES CLASSIFICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             65272
                                                                                                                     Nature 371:752-752(1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        401
502
603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             202
304
405
506
603 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACID SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BEING REPORTED
                              MEDLINE-95021758;
                                                                                                                                                                                                                                                           Claverie J.-M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical
                                                                                              'Alu alert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Quentin Y.
                                                                                                                                                                                        CONCEPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
% THE TERM TO COULD COUL
```

Alignment Scores:

<u></u>									-																			
		3627 24	3680	4 6	5/39	3799	84	3852	3912	102	3972	109	4017	129	4077	140	4137	1106	4190	4238	195	4298	212	4358	231	4409	251	4469
34.74% Conservative: 52 .ty: 27.15% Indexis: 206 3.21% Index: 246 1 Gaps: 27	(1-5514) x ALU4_HUMAN (1-603)	TGGCTCACGCTGTAATCCCAGCACTCTGGGAGGCTGAGGTGGGTG	TGGACTTCAAGACCAGCCTGAGCAACATGGCAAAACCCTGTTTCTATAACAAA		Animocowowaniwaniwaniwaniwaniwaniwawawaniwawawa 	AGAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGACCAGTGCTTGCGCCCACTGCACTC	luasnGlyValasnProGlySerGlyAlaCysSerGluProArgLeuArgHisCysSerP	CAGCCTGGGTGACAGGACCAGACCTTGCCTCAAAAAATAAGAAGAAAATAA	AAATAAATGGAAACAACTACAAAGAGCTGTTGTCCTAGATGAGCTACTTAGTTAG		TTGGTATTTAAACTTTTAAAGTCAGGTCTGTCACCTGCACTACATTATAAAATA	:::        	TCAATTCTCAATGTATATCCACACAAAGACTGGTA	HisPheGlyArgPro	CATAGTACCTTTATTCACAAAACCCCAAAGTAGAGACTATCCAAATATCCATCAACAAGT	TrpLeuThrArg***AsnProValSerThr	GAACAAATAAACAAAATGTGCTATATCCATGCAATGGAATACCACCCTGCAGTACAAAGG	このは、ここでは、このは、このは、このは、ないは、このは、ないは、このは、ないは、このは、ないは、このは、ないは、このは、ないは、このは、ないは、このは、ないは、このは、ないないは、このは、このは、このは、このは、このは、このは、このは、このは、このは、この	rnsravciatiososoniosatiocontoriososoniososoniososoniososoniosonioson	-AAGGAGAGATATGTATGCCATACGAAATTCTAGAAAATGA	::: 	AAGTAACTTATAGTTACAGAAAGCAAATCAGGGCAGGGC	SerLysLys*******ProGlyAlaValAlaHisAlaCysAsnP	CCAGCACTTTGAGAGGCCACGTGGGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCT	ThrLeuGlyGlyArgGlyGlyTrpIleMet-ArgSerGlyAspArgAspHisPro	GGGCAACACAGTGAAACTCCATTCTCCAAAAATGGGAAAAaaAGAAAGC	**GlnGlyGluThrProSerLeuLeuLysIleGlnLysIleSerArgAlaArgTrp	AAATCAGTGGTTGTCCTGTGGGGGGGAAGGACTGCAAAGAGGGAAGAAGCTCTGGTGG
arıty milar																												
Percent Similarity: Best Local Similarity Query Match: DB:	9-966-880A-9	3568 5	3628	2601	44	3740	64	3800	3853	102	3913	103	3973	109	4018	129	4078	1138	156	4197	175	4239	195	4299	212	4359	232	4410
Perce Best Query DB:	0S-09	Qy Db	٥ م	a :	<u> </u>	ογ	Op	δ d	3 8	: <u>유</u>	οy	a G	٥y	a D	Qγ	qq	oy da	3 8	<u>2</u> 8	ργ	QQ	λo	g G	٥y	Dp	οy	qq	οy

<b>*</b>	4470 GGT	GAGGGTGGTGATTCAGGTTCTGTATCCTGACTGTGGTAGCTAGTTTTGGGGTTTTACA	4529
ī,			:
qq	268 Arc	gGluProGlyLysArgSer	274
δÿ	4530 TC	CAAAAATATTCGTAGAATTATGCATCTTAAATGGGTGGAGTTTACTGTATGTA	4589
qa	275	luIleAla	283
Qy	4590 TAC	CTT	4649
qq	284 Gln	SerAlaValArgProGlyArgGlnSerGluThr	300
Qy	4650 TT	ATTCAAATTCCTGAGCCCTTTACTTCGCAAATTCTCTGCACTTCTGCGCCCGTACCATT	4709
QΩ	301 **		316
QY	4710 AGGT	3TGACAGCACTAGCTCCACAAATTGGATAAATGCATTTCTGGAAAAGACTAGGGACAA	4769
qq	316		316
QY	4770 AAS	AATCCAGGCATCACTTGTGCTTTCATATCAACCACGCTGTACAGCTTGTGTTGCTGTCTG	4829
Db	317	AspCysGly	319
Qy	4830 CAC	CAGCTGCAATGGGGACTCTTTAAGGAAA	4865
QQ	320		338
QY	4866	CTTGGGTTACCAGAGTATTTCCACAAATGCTATTCAAATTAGTGCTTATGATAT	4919
qq	339 Ser	$\sim$	349
Οy	4920 GC	GCAAGACACTGTGCTAGGAGCCAGAAAACAAAGAGGAGAGAAATCAGTCA	4970
qq	350 Ar	gargProProProArgProAlaAsnPheLeuTyrPhe*****ArgArgGlyPheThr	369
Qy	4971 TTI	CAAGATATTAGATCATTT::	5030
qq	370 Let	<pre>iLeuAlaArgMetValSerIleSer***ProHisAspProProAlaSerAlaSerGin</pre>	. 688
Qy	5031 AGTA	FACAAAATCACACATGCAATCAGTATAATCCAAATCATGTAAATATGTGCCTGTAGAA	2090
qq	390 Ser	rala-G1y	392
Qy	5091 AG	AGACTAGAGGAATAAACACAAGAATCTTAACAGTCATTGTCATTAGACACTAAGTCTAAT	5150
qq	392		392
QY	5151 TAT	TATTATTAGACACTATGATATTTGAGA	5210
Dp	392		392
Qy	5211 GA	ATTTTC	5270
QQ	393	:::    ;:: ;:: ;:: ;:: ;:: ;:: ;:: ;:: ;	402
Qy	5271 TT	TTTTT	5324
Dp	402 **	******PhePhe***AspGlyValSerLeuCysArgProGlyArgThrAl	419
Qy	5325 GG	GTGGBATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAA	5384
QQ	: 419 aA:	Hiss	439
Qy	5385 TG	GTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACACTCGGCTAAT	5444
QQ	439 rP	grenī	459
Qy	5445 GT	GTT-TGTATTTTAGTAGAGATGGGGTTTGACCATGTTGGCCAGGCTGGTGTCAAACTCC	5503
qq	459 eP	heCysllePheSerArgAspGlyValSerProCys***ProGlyTrpSerArgSerPr	479
QY	5504 TG	TGACCIC 5510	

g

Search completed: June 14, 2003, 18:30:43 Job time: 136.164 secs

us-09-966-880a-9.n2p.rspt

```
homo sapien
                                                                                                                                                                       macaca fasc
homo sapien
                                                                                                                                                                                                    homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
sapien
sapien
sapien
ca fasc
sapien
                                                  sapien
sapien
sapien
sapien
                                    sapien
sapien
                                                                                                                                                         homo sapien
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE—COLON;

Kawabata A., Hikiji T., Kobatake N., Inagaki H., Ikema Y., Okamoto S.

Kawabata A., Hikiji T., Suzuki Y., Obayashi M., Nishi T., Shibahara T.,

Okitani R., Ota T., Suzuki Y., Isogai T., Sugano S.;

"NEDO human cDNA sequencing project.";

"NEDO human cDNA sequencing project.";

Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
                      macaca
                                                                                                                                                                                                                                                                                                                   macaca
                              homo
                                                                                                                                                                                                                                                                                                   homod
                                           рошо
                                                          homo
                                                                                                                                                                                                                                                                                                                         homod
                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
Q9h743
Q9nx85
Q9h387
                     09n083
09nx17
                                                         09bya5
08tb48
096nr6
                                                                               096mm0
09hbs7
                                                                                              08wz39
09h5r3
                                                                                                            Q8wtz3
P78525
Q8wtz3
Q9nx17
Q96h19
Q9h397
                                                                                                                                                                       09bgw3
09p195
09p0e3
                                                                                                                                                                                             09bvd9
09had8
                                                                                                                                                                                                                  09ha67
096jr5
060448
09h728
                                                                                                                                                                                                                                                060448
Q9h9h0
                                                                                                                                                                                                                                                              0961d7
096fs0
096n97
096md7
096eb1
                                                                                                                                                                                                                                                                                                        P78525
Q9be58
Q9nxe7
                                    09h387
                                            096nr6
                                                                                                                                                         Q9nwi4
                                                                                                                                                                09h6g8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL, AK025116, BAB15071.1; -.
SEQUENCE 171 AA; 18436 MW; DDC546D275038FAF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             171
                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                               ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                            171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
                                                                                                                                                                                                                                                                                                                                                                                           Created)
                                          096886
098885
098885
0987848
096886
096880
                                                                                              Q8WZ39
Q9H5R3
Q8WTZ3
P78525
Q8WTZ3
Q9WTZ3
                                                                                                                                                                              09P195
09P0E3
09BVD9
09HAD8
                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2001 (TrEMBLrel. 16, Created 01-MAR-2001 (TrEMBLrel. 16, Last se 01-MAR-2001 (TrEMBLrel. 16, Last and CDNA: FLJ21463 fis, clone COL04765.
                                                                                                                                           096HL9
                                                                                                                                                                99неб
                                                                                                                                                                        09BGW3
                                                                                                                                                         Q9NW14
                                                                                                                                                                                                            Q9UHT1
                                                                                                                                                                                                                   29HA67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.19e - 24
                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
SEQUENCE FROM N.A.
 000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
Pred. No.:
Q9H728
                                                                                                                                                                                                                                                                                                                                                                           09н728
000
                                            00
                                                                                                                                                   O
                                                                                                                                                                         OO
                                                                                                                                                                                           00
                                                                                                                                                                                                                   000
                                                                                                                                                                                                                                                         υυ
                                                                                                                                                                                                                                                                                                                                                                            Q9h728 homo sapien
                                                         (without alignments)
6720.711 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                              ......tcaaactcctgacctcagag 5514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
                                                 ; Search time 338.102 Seconds
       GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                   protein search, using frame_plus_n2p model
                                                                                                                                                                      hits satisfying chosen parameters:
                                                                                                                                                       671580 seqs, 206047115 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUMMARIES
                                                                                                                                                                                                                  Maximum Match 100%
Listing first 45 summaries
                                                 June 14, 2003, 18:12:03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          171 4 Q9H728
                                                                                            acagacgaatacatggtcca
                                                                                                                  , Xgapext
, Ygapext
, Fgapext
, Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                     sp_unclassified:*
                                                                                                                                                                                                                                                                                                                                                   sp_fungi:*
sp_human:*
sp_invertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                                                              sp_vertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                    sp_bacteriap:*
                                                                                                                                                                                                                                                                                                                                                                                         sp_organelle:*
                                                                                                                                                                                    Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                             SPTREMBL_21:*
1: sp_archea:*
2: sp_bacteria:*
                                                                                                                                                                                                          Post-processing: Minimum Match 0% Maximum Match 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                            sp_archeap:*
                                                                              US-09-966-880A-9
9659
                                                                                                                                                                                                                                                                                                                                                                                                               sp_rodent:*
                                                                                                                                                                                                                                                                                                                                                                                                                                             sp_rvirus:*
                                                                                                                                                                                                                                                                                                                                                                           sp_mammal:*
sp_mhc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                        sp_plant:*
                                                                                                                                                                                                                                                                                                                                                                                                                       sp_virus:*
                                                                                                                                                                                                                                                                                                                                                                                                sp_phage:*
                                                                                                          BLOSUM62
Xgapop 10.0 ,
Ygapop 10.0 ,
Fgapop 6.0 ,
Delop 6.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.2
                                                                                                                                                                                                                                                                                                                                                                                                9:
110:
112:
133:
114:
116:
                                                                                                                                                                      oę
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          309.5
                                                                             Title:
Perfect score:
                                                                                                            Scoring table:
                                                                                                                                                                      rotal number
                                   nucleic
                                                                                             Sequence:
                                                                                                                                                       Searched:
                                                                                                                                                                                                                                                                                                                              Jatabase
                                                 Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ٠
ي
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          c 1
```

99

ò

ò

ö

```
3775 CAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCT---GCCTCAGCCCCCTAGTAG 3719
                                                                                                     TTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCCACCACCA 5432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5433 CACTCGGCTAATGTTTGTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGG 5492
                                                   CTGGGACCACAGGCACATGCCACCATGCCCGGCTAATTTTTGTT-----ATAGAAACAG 3665
                                                                                                                  54 PheLysGlnPheSerCysLeuSerLeuLeuSerSerTrpAspTyrArgHisAlaProPro 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5313 GTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.

TISSUB-ILEAL MUCOSA;
Watanabe K., Kumagai A., Itakura S., Yamazaki M., Tashiro H., Watanabe K., Kumagai A., Itakura S., Yamazaki M., Tashiro H., Suzuki Y., Obayashi M., Nishi T., Shibahara T., Tanaka T., Nakamura Y., Isogai T., Sugano S.;
"NEDO human cDNA sequencing project.";
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
EMBL, AKO00385; BA991131.1; -.
SEQUENCE 152 AA; 16568 MW; 59065F45AAA301B5 CRC64;
                                                                                                                                                   152
60
4
22
1
                                                                                                                                                                                                                                                     01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
KAIAO556 protein.
Homo saplens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ¥.
                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
                                                                                                                                                                                                                               152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-966-880A-9 (1-5514) x Q9NX85 (1-152)
                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5493 TCTCAAACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.66e-22
290.00
73.56%
68.97%
3.00%
                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                                                    3718
                                                                            46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5373
                                                                                                                                                                                                                               Q9NX85
Q9NX85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9H387
Q9H387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 4
                                                                                                                                                                                                      RESULT
                                                                                                                                                                                                                   09NX85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9H387
ID Q
AC Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score:
                          QQ
                                                    ò
                                                                            g
                                                                                                     ò
                                                                                                                              a
                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                       ò
                                                                                                   3754 GGCTCCAAAGATTCTCCTGCCTCAGCCCCCTA-GTAGCTGGGACCACAGGCACATGCCAC 3696
                                                                                                                                                                                                                                                                                                         3642
                                                                                                                                                                                                                                                                                                                                                        3641 GGTCTTGAACTCCAGGGCTCAAGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGATT 3582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3835 TTTTTGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAGTGCCGCAAGCACTGCT 3776
                                                                                                                                                                                                                                                                                                                                                                     123 GlyLeuGluLeuThrSerGlyAspProProAlaSerAlaSerGlnSerAlaGlyIle 142
                                                                                                                                                                                                                                                                                102
                                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                             62
                                                                                                                                                                                                                               82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    s.
                                                                                                                                                                                                                  43 AlaileileGlnThrLysileSerSerPhePhePhePheLeuArgGlnSerLeuThr
                                                                                                                                                                                                     3814 CTGTCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTG
                                                                                                                                                                                                                                                                                                       CATGCCCGGCTAATTTTTGTT - - - - - ATAGAAACAGGGTTTTGCCATGTTGCTCAGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kawabata A., Hikiji T., Kobatake N., Inagaki H., Ikema Y., Okamoto s
Okitani R., Ota T., Suzuki Y., Obayashi M., Nishi T., Shibahara T.,
Tanaka T., Nakamura Y., Isogai T., Sugano S.;
"NEDO human cDNA sequencing project.";
Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AKO25047; BAB15056.1; -.
SEQUENCE 127 AA; 13754 MW; 25851EDBDOIEFFF8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                127
64
8
20
5
   74
8
33
14
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-WAR-2001 (TrEMBLrel. 16, Created)
01-WAR-2001 (TrEMBLrel. 16, Last sequence update)
01-WAR-2001 (TrEMBLrel. 16, Last annotation update)
CDNA: FLJ21394 fis, clone COL03536.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
              Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     127 AA
                                      Indels:
                                                                                                                                                                                                                                                                                                                                                                                                          ACAGGCGTGAGCCACCACACCTGG 3558
                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-966-880A-9 (1-5514) x Q9H728 (1-171)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-966-880A-9 (1-5514) x Q9H743 (1-127)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6.53e-23
293.50
74.23%
65.98%
3.05%
309.50
64.06%
57.81%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
              Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE-COLON;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                          3581
                                                                                                                                                                                                                                                                                                         3692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9H743
Q9H743;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match:
                                       Query Match:
                        Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..
N
              Percent
                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred.
                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                           a
                                                                                                                                                                                                     δ
                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
```

. H ota 5312

33

5372

53

 $\sim$ 

```
3859
                                                                                                                                                                                                    3739
                                                                                                                                                                                                                                                                                                                                                                                                                               Q9NX17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                     09NX17
   ..
0N
                                                                                                                                                                                                                                                                                                                                                                                              RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                          09NX17
                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                g
                                                                                                                                                        οy
                                                                                                                                                                              g
                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                       3849 ITTITCTICITATITITIGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAGT 3790
                                                                                                                                                                                                                                                                                                                                                                                           3789 GCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTCAG 3730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3674 -- ATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAGCG 3617
                                                                                                                                                                                                                                                                                                                                                                      24
                                                                                                                                                                                                                                                                                                                                                                                                                     44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                84
                                                                                                                              Zhang C., Yu Y., Zhang S., Wei H., Bi J., Zhou G., Dong C., Zai Y., Xu W., Gao F., Liu M., He F.,
Xu W., Gao F., Liu M., He F.,
"Functional prediction of the coding sequences of 75 new genes deduced
by analysis of cDNA clones from human fetal liver.";
Submitted (FEB-1999) to the EMBL/GenBank/DDBJ databases.
EMBL, AF130089; AAG51515.1;
SEQUENCE 118 AA; 13257 NW; 94688870CAC8760D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ϋ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
Osada N., Hida M., Kusuda J., Tanuma R., Iseki K., Hirai M., Terao
Osada N., Hida M., Kusuda J., Tanuma R., Iseki K., Hirai M., Terao
Suzuki T., Sugano S., Hashimoto K.;
"Isolation of full-length cDNA clones from macaque brain cDNA
libraries.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-007-2000 (TrEMBLrel. 15, Created)
01-007-2000 (TrEMBLrel. 15, Last sequence update)
01-007-2000 (TrEMBLrel. 15, Last annotation update)
01-007-2000 (TrEMBLrel. 15, Last annotation update)
Unnamed portein product.
Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Macaca is Metacaca; Chordate; Craniata; Vertebrate; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Cercopithecidae;
                                                          Craniata; Vertebrata; Euteleostomi;
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (JUL-2000) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AB046048; BAB01630.1; -.
SEQUENCE 115 AA: 12702 MW; CB55B257BFBB381A CRC64;
Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            115 AA
                                                                                                                                                                                                                                                                                                                     US-09-966-880A-9 (1-5514) x Q9H387 (1-118)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                        Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
NCBI_TaxID=9606;
 16,
16,
16,
                                                                                                                                                                                                                                      02e-22
                                                                                                                                                                                                                                                289.00
71.00%
68.00%
3.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
 (TrEMBLrel.
           01-MAR-2001 (TrEMBLrel. 01-MAR-2001 (TrEMBLrel.
                                               Homo sapiens (Human).
                                                                                                       SEQUENCE FROM N.A.
TISSUE-LIVER;
                                                                                                                                                                                                                                                                        Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9541;
                                                                                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                          Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9N083
Q9N083;
                                                                                                                                                                                                                                        Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
 ò
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ç
```

Alignment Scores:

```
TTATTTTTAATTTTTCTTCTTATTTTTTTGAGGCAAGGTCTGGTCCTGTCACCCAGGCTG 3800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3865 TTCCATTTATTTTAATTTTTCTTCTTATTTTTTGAGGCAAGGTCTGGTCCTGTCACCC 3806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3805 AGGCTGGAGTGCAGTGCGAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAA 3746
                                                                                                                                                                                                                                                                  3799 GAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCT 3740
                                                                                                                                                                                                                                                                                                                                                                                                                          3680 TTTGTT-----ATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAG 3627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3626 GGCTCAAGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCAC 3567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                      :::|||||||||| :::
21 LysCysSerGlyThrlleLeuAlaTyrCysAsnLeuHisLeuLeuGlySerSerAsnPro 40
                                                                                                                                                                                                                                                                                                                                                                   CCTGCCTCAGCCCCCTA - GTAGCTGGGACCACAGGCACATGCCACCATGCCCGGCTAATT
                                                                                                                                                                                                        .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ota
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi;
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Watanabe K., Kumagai A., Itakura S., Yamazaki M., Tashiro H., Suzuki Y., Obayashi M., Nishi T., Shibahara T., Tanaka T., Nakamura Y., Isogai T., Sugano S.; "NEDO human cDNA sequencing project."; "NEDO human cDNA sequencing project."; Submitted (FBE-2000) to the EMBL/GenBank/DDBJ databases. EMBL; AK000496; BAA91205.1; SEQUENCE 239 AA; 25728 MW; 5272FFA2C34214A5 CRC64;
    115
62
11
28
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
                                             Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ā
        Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels:
                                                                                                         Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-966-880A-9 (1-5514) x Q9NX17 (1-239)
                                                                                                                                              US-09-966-880A-9 (1-5514) x Q9N083 (1-115)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequ
01-OCT-2000 (TrEMBLrel. 15, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDNA FLJ20489 fis, clone KAT08285.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
3.35e-22
287.00
70.87%
60.19%
2.98%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.4e-21
282.00
67.65%
63.73%
2.93%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3566 CACACCTGG 3558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            111111
101 CysThrTrp 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human)
                                                                Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                           Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Aliqnment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

```
sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                     Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9NX85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9NX85
                                                                                                                                                                                                               ..
0V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
Q9NX85
     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
3745 GATICICCIGCCICAGCCCCCIA-GIAGCIGGGACCACAGGCACAIGCCACCAIGCCCGG 3687
                                                                                     3573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5277 ITTITITITITITIGAGAIGGAGTITIGGTCTIGTIGCCCAIGCTGGAGIGGAAIGG 5336
                                                   169 GlnilePheValPheLeuValGluThrGlyPheCysHisValGlyGlnAlaGlyLeuGlu 188
                                                                                            44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
TISSUE-LIVER;
Zhang C., Yu Y., Zhang S., Wei H., Bi J., Zhou G., Dong C., Zai Y.,
Zhang C., Yu Y., Zhang S., Wei H., Bi J., Zhou G., Dong C., Zai Y.,
Xu W., Gao F., Liu M., He F.;
Functional prediction of the coding sequences of 75 new genes deduced by analysis of cDNA clones from human fetal liver.';
Submitted (FEB-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF130089; AAG35515.1;
EMBL; AF130089; AAG35515.1;
EMBL; AF130089; AAG35515.1;
            688 CTAATTTTTGTT----ATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAA
                                                                                 CTCCAGGGCTCAAGCGATCCACCTCCAGCCTCCCAGAGTGCTGGGATTACAGGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 PhePhePheLeuPheLeuArgTrpSerPheThrLeuValAlaGlnAlaGlyValGlnTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5337 CATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5397 CICCCGGGTAGAIGGGAITACAGGCGCCCACCACCACACACTCGGCTAAIGITIGIATITIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82
                                                                                                                                                                                                                                                 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                118
56
3
19
1
                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        096NR6.
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CDNA FLJ30278 fis, clone BRACE2002755.
                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               136 AA.
                                                                                                                                                                                        118
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-966-880A-9 (1-5514) x Q9H387 (1-118)
                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                         01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                                                                                                                                                                                                                4.29e-21
277.00
74.68%
70.89%
2.87%
                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                          AGCCAC 3567
                                                                                                                                              SerHis 210
                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                       Aliqnment Scores:
                                                                                 3632
                                                                                                                         3572
                                                                                                                                             209
                                                                                                     189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match:
DB:
                                                                                                                                                                                      09н387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                096NR6
                                                                                                                                                                 RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                    Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q96NR6
                                                            g
                                                                                                    a
                                                                                                                        ò
                                                                                                                                            g
                                                                                                                                                                                       ô
                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DETT
```

```
5451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5510 GAGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGTGAAACCCCATCTCTACTAAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5450 ACAAACATTAGCCGAGTGTGGTGGTGGTGGCCCCTGTAATCCCATCTACCCGGGAGGCTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5390 GCGACAGCTTTGCTTGAACCCAGGAGGTTGCAGTGAGGTATGRTCATGCCATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ę.
                                                                                                                                            Nishi T., Nakagawa S., Senoh A., Mizuguchi H., Inagaki H., Sugiyama T., Irie R., Otsuki T., Sato H., Wakamatsu A., Ishii S., Yamamoto J., Isono Y., Kawai Hio Y., Salto K., Nishikawa T., Kimura K., Yamashita H., Matsuo K., Nakamura Y., Sekine M., Kimura K., Wagatsuma M., Murakawa K., Kanehori K., Takahashi-Fujii A., Oshima A., Sugiyama A., Kawakami B., Suzuki Y., Sugano S., Magahari K., Masuho Y., Nagai K., Isogai T.; Submitted (OCT-2001) to the BMBL/GenBank/DDBJ databases.

EMBL; AK054840; BAB70813.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ota
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostom1;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostoml;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-ILEAL MUCOSA;
Watanabe K., Kumagai A., Itakura S., Yamazaki M., Tashiro H., (
Watanabe K., Kumagai A., Itakura S., Yamazaki M., Tashiro H., (
Suzuki Y., Obayashi M., Nishi T., Shibahara T., Tanaka T.,
Nakamura Y., Isogai T., Sugano S.;
"NEDO human CDNA sequencing project.";
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AK000385; BAA91131.1; --
SEQUENCE 152 AA; 16568 MW; 59065F45AAA301B5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                 1840; BAB70813.1; -.
136 AA; 14980 MW; D2336B649A110163 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              136
54
6
25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-0cT-2000 (TrEMBLrel. 15, Created)
01-0cT-2000 (TrEMBLrel. 15, Last sequence update)
01-0cT-2001 (TrEMBLrel. 19, Last annotation update)
KAIAO536 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            152 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-966-880A-9 (1-5514) x Q96NR6 (1-136)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5270 AAGAAAGAGTAATACT 5255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              131 nGlyValThrLysThr 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9.5e-21
274.00
69.778
62.798
2.858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                  SEQUENCE FROM N.A. TISSUE=CEREBELLUM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity:
                                                 NCBI_TaxID-9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment Scores:
```

S

5422

5482

```
118 gProProArgGlnAlaAsnPheCysIlePheSerThrAspGlyValSerProCysTr 138
                          5373 TTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACAA
             ACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCG
                                                           CCCACCACCACCACCACTCGGCTAATGTTTGTAGTAGAGATGGGGTTTCACCATGTTG
                                                                                                                                                                                                                                        Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                            Strausberg R.;
Strausberg R.;
Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; BC024651; AAH24651.1; ...
SEOUENCE 72 AA; 8162 MW; C14F28BD98E2C1F0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                      72
45
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CDNA 72:30278 fis, clone BRACE2002755
HOMO sapiens (Human).
                                                                                                                                                                                                               Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative:
Mismatches:
Indels;
                                                                                                                                                                             72 AA
                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
                                                                                                         GCCAGGCTGGTCTCAAACTCCTGACCTC 5510
                                                                                                                      ||||| |||||| ::: ||||||| 138 pProArgTrpSerLeuSerLeuAspLeu 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-966-880A-9 (1-5514) x Q8TB48 (1-72)
                                                                                                                                                                                                    Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5493 TCTCAAACTCCTGACCTCAGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ||||:::||||||||||:::
| SerArgThrProAspLeuLys 72
                                                                                                                                                                                                                                                                                                                                                                                                 2.92e-19
260.00
76.12%
67.16%
2.69%
                                                                                                                                                                                                    21,
21,
                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                             01-JUN-2002 (TrEMBLrel. 01-JUN-2002 (TrEMBLrel. Similar to PRO2550.
                                                                                                                                                                          Q8TB48 PRELIMINARY;
Q8TB48;
01-JUN-2002 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. TISSUE-TESTIS;
                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                           Aliqnment Scores:
              5363
                                                           5423
                                                                                                         5483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q96NR6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q96NR6
                                                                                                                                                                                                                                                                                                                                                                                                       ..
⊗
                                                                                                                                                      RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 12
                                                                                                                                                                  Q8TB48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           096NR6
                                                                               g
                                                                                                                               g
                                                                                                                                                                                         ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                           õ
                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5362
                                                                                                                                                      3744
                                                                                                                                                                                                    3685
                                                                                                                                                                                                                                               3684 AATTTTGTT-----ATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACT 3631
                                                                                                                                                                                                                                                                                            3630 CCAGGGCTCAAGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAG 3571
                                                                                                                                                                                                                                                                                                        26
                                                                                                                                                                                                                        92
                                                                                                                                                                                                                                                                      96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         φ
                                                                                                                                                                                                               3860 TITATITITAATITITCTTCTTATITITIGAGGCAAGGICT---GGICCTGTCACCCAG
                                                                                                                                                      GCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGA
                                                                                                                                                                 TTCTCCTGCCTCAGCCC - CCTAGTAGCTGGGACCACAGGCACATGCCACCATGCCCGGCT
                                                                                                                                                                                                                                                              ------TTTTTTTTTGAGATGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5303 TITIGGTCTTGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hirosawa M., Nagase T., Murahashi Y., Kikuno R., Ohara O.;
"Identification of the transcribed sequences on human chromosome
the expressed sequence tags-mapping.";
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AB051442; BAB33325.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Eutele
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89EC1594049895EA CRC64;
152
62
9
27
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      162
53
57
1
                                                                                                                                                                                                                                                                                                                                                                                                                                               Last sequence update)
Last annotation update)
Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                               162
                                                           Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5255 AGTATTACTCTTTCTTTTTTTTTT--
                                                                               US-09-966-880A-9 (1-5514) x Q9NX85 (1-152)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-966-880A-9 (1-5514) x Q9BYA5 (1-162)
                                                                                                                                                                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata;
Mammalla; Eutheria; Primates;
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                         09BYA5;
01-JUN-2001 (TrEMBLrel. 17, C)
01-JUN-2001 (TrEMBLrel. 17, Le
01-JUN-2001 (TrEMBLrel. 17, Le
KIAA1655 protein (Fragment).
KIAA1655.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE 162 AA; 18464 MW;
5.09e-20
267.50
69.61%
60.78%
2.78%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.62e-19
263.00
64.44%
58.89%
2.72%
                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                         3570 CCAC 3567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                116 rHis 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                     3803
                                                                                                                                                                                                   3743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NON_TER
                                              Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                               Q9BYA5
 ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ..
No.:
                                                                                                                                                                                                                                                                                                                                                                                       RESULT 10
Q9BYA5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
 Pred.
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                              a
                                                                                                                                                   õ
                                                                                                                                                                         g
                                                                                                                                                                                                ò
                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   合
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

5432

45

```
Alignment Scores:
                                                                                                                                                                                                                                                                                                                                        5476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       growth.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         38
                                                                   Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                    Q9HBS7
                   Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                           14
                                                                                                                                                                                                                                                                                                                                                                                           RESULT
Q9HBS7
                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
                                                                                                                                  ö
                                                                                                                                                           g
                                                                                                                                                                                                           ā
                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                                                පු
                                                                                                                                                                                                                                                                                                                                                                                                                    ŝ
                                                                                                                                                                                                                                       ŝ
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        습
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        급
                                                                                                                                                                                                                                                                                                                                                                                                     3682 ATTAGCCGGCCATGGTGGCATGTGCCTGTGGTCCCAGCTACTAG-GGGGCTGAGGCAGGA 3740
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAGTGCTTGCGCCACTGCACTCC 3800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3801 AGCCTGGGTGACAGGACCAGACCTTGCCTCAAAAAATAAGAAGAAAAATTAAAAATAAAA 3860
                                                                                                                                                                                                                                                                                                 3681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             113 OALaTrpAlaThrArgAlaLysLeuHisLeuArgLys-----AsnLysAsnLysAsnAs 131
                                                                                                                                                                                                                                                                                                                                                                 53
                                                                                                                                                                                                                                                                                                                                                                                                                               93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kawakami B., Sugiyama A., Takemoto M., Sugiyama T., Irie R., Otsuki T., Sato H., Wakamatsu A., Ishii S., Yamamoto J., Isono Y., Otsuki T., Sato H., Washikawa T., Kimura K., Yamashita H., Matsuo K., Nakamura Y., Sekine M., Kikuchi H., Kanda K., Wagatsuma M., Murakawa K., Kanehori K., Takahashi-Pujii A., Oshima A., Suzuki Y., Sugano S., Nagahari K., Masuho Y., Nagai K., Isogai T.; Submo S., Nagahari K., Masuho Y., Nagai K., Isogai T.; Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AKO56734; BAB71267.1; --
SEQUENCE 163 AA: 18797 MW; B69B19F5FCOELAO7 CRC64;
                                                                                                                                                                                                                                                                                                               3628 TGGAGTTCAAGACCAGCCTGAGCAACATGGCAAAAACCCTGTTTCTATA----ACAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
TISSUE-CEREBELLUM;

Nishi T., Nakagawa S., Senoh A., Mizuguchi H., Inagaki H.,

Sugiyama T., Irle R., Otsuki T., Sato H., Wakamatsu A., Ishii S.,

Yamamoto J., Isono Y., Kawai-Hio Y., Saito K., Nishikawa T.,

Kimura K., Yamashita H., Matsuo K., Nakamura Y., Sekine M.,

Kikuchi H., Kanda K., Wagatsuma M., Murakawa K., Kanehori K.,

Takahashi-Fujii A., Oshima A., Sugiyama A., Kawakami B., Suzuki Y.

Sugano S., Nagahari K., Masuho Y., Nagai K., Isogai T.;

Submitted (CT-2001) to the EMBL/GenBank/DDBJ databases.

EMBL, AK054840; BAB70813.1;
                                                                                                                                            136 AA; 14980 MW; D2336B649A110163 CRC64;
                                                                                                                                                                                  136
61
9
27
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          096MMO;
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CDNA FLJ32172 fis, clone PLACE6000555.
Homo sapiens (Human).
                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   163 AA
                                                                                                                                                                                                                                                  Gaps:
                                                                                                                                                                                                                                                                        US-09-966-880A-9 (1-5514) x Q96NR6 (1-136)
                                                                                                                                                                                3.35e-19
260.00
68.63%
59.80%
2.69%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
TISSUE=PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGA 3864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ||||
| nGly 132
                                                                                                                                                                                                                       Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                           Percent Similarity:
                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                131
                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                      3741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3861
                                                                                                                                                                                                                                   Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  096MM0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred.
   ò
                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

```
5310
                                                                                                                                                                                                                             5370
                                                                                                                                                                                                                                                                                              5430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3752
                                                                                                                                                                                                                                                                                                                                                                5475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3751 TCCAAAGATTCTCCTGCCTCAGCCCCCTA-GTAGCTGGGACCACAGGCACATGCCACAT 3693
                                                                                                                                                                                                                                                            111
                                                                                                                                                                                                                                                                                                                             131
                                                                                                                                                                                                                                                                                                                                                                                 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         37
                                                                                                                                                            5311 TTGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTG
                                                                                                                                                                              ----GTATTTTAGTAGAGATGGGGTTTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerProArgLeuGluCysSerGlyThrIleSerAlaHisCysAsnLeuCysLeuLeuGly
                                                                                                                                                                                                                                                                                               5371 GGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18 PheLeuValPheLeuCysProllePhePheSerPheSerGluValGluSerLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3811 TCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
114.2 kDa protein.
Homo sapiens (Human).
Homo sapiens (Human).
Mammalia: Netazoa: Chordata: Craniata: Vertebrata: Euteleostomi:
MCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. GLOON X.T., Zhou X.M., Jiang H.O., Zhang P.P., Gu J.R., Wan D.F., Zhao X.T., Zhou X.M., Jiang H.O., Li H.N., Yu Y., Yu J., Han L.H.; The L.P., Li H.N., Yu Y., Yu J., Han L.H.; The Cones with function of inhibiting cancer cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases EBMBL, AF211973; AAG17216.1; -Hypothetical protein 120 Ar. 14153 MW; FF338649055F70FA CRC64; SEQUENCE 130 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3856 TITITAATITITCTTCTT---ATTTTTTGAGGCAAGGTCTG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      130
63
6
31
8
        163
58
8
20
1
                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
                                                                           Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT; 130
                                                                                            Gaps:
                                                                                                                           (1-163)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-966-880A-9 (1-5514) x Q9HBS7 (1-130)
                                                                                                                           US-09-966-880A-9 (1-5514) x Q96MM0
8.51e-19
256.50
70.21%
61.70%
2.66%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.04e-18
255.50
64.49%
58.88%
2.65%
                                                                                                                                                                                                                                                                                                                                                                5431 CACACTCGGCTAATGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                           Best Local Similarity:
                                           Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
```

```
3692 GCCCGGCTAATTTTGTT-----ATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGT 3639
                                                                                        3638 CTTGAACTCCAGGGCTCAAGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACA 3579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5325 GGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGC 5384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5385 TGTCGCCTCCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCCACCACCACCACCACACTCGGCTAAT 5444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5265 TITCITITITITITITITITITITITITITGAGAIGGAGITITIGGICITGITGCCCAIGCI 5324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                         [1]
SEQUENCE FROM N.A.
Huang Y., Zhou X.M., Zhang P.P., Jiang H.Q., Qin W.X., Zhao X.T.,
Wan D.F., Gu J.R.;
"Novel human cDNA clones with function of inhibiting cancer cell
growth.";
                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (JUL-2000) to the EMBL/GenBank/DDBJ databases EMBL; AR289553; AAL55737.1; -. Hypothetical protein Protein 1 2263 MW; 61560F7B74664B55 CRC64; SEQUENCE 109 AA; 12263 MW; 61560F7B74664B55 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                109
54
23
1
                                                                                                                                                                                                                                                01-MAR-2002 (TrEMBLrel. 20, Created)
1-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Hypothetical 12.3 kDa protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                       109 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-966-880A-9 (1-5514) x Q8WZ39 (1-109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Search completed: June 14, 2003, 18:47:58 Job time : 353.102 secs
                                                                                                                                             3578 GGCGTGAGCCACCACCTGG 3558
                                                                                                                                                                                                                         PRT;
                                                                                                                                                          3.16e-18
251.00
71.08%
65.06%
2.60%
                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5505 GACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ||||
|106 uAlaSer 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
Pred. No.:
             58
                                                                                                                                                                                                                      Q8W239
Q8W239;
                                                                                                                                                                                             RESULT 15
Q8WZ39
                                                                                                                                                                                                                         쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                              a
                                                                                        ð
                                                                                                               g
                                                                                                                                           õ
                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

·	·	

OM nucleic

Run on:

Searched:

```
5577, App
1168, App
1193, App
1193, App
285, App
575, App
575, App
655, App
111, App
111, App
111, App
111, App
1170, App
656, App
656, App
656, App
1710, App
656, App
                                                                                                                                                                                                                                                                                                       6, Appli
5498499
2, Appli
13, Appl
1, Appli
                                                                                                                                                                                                                                                                                                                             Sequence 2
Sequence 1
Sequence 1
                                    Sequence
                                                                                                                                                                                                                                                                                           Sequence (
                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                    Patent No.
                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 121, Application PC/TUS9517111A
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL TO GENERAL GENERAL GENERAL APPLICANT: Wands, Jack R.
TITLE OF INVENTION: Neural Thread Protein Gene Expression and TITLE OF INVENTION: Detection of Alzheimer's Disease NUMBER OF SEQUENCES: 121
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Sterne, Kessler, Goldstein & Fox P.L.L.C.
STREET: 1100 New York Avenue, Suite 600
CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
US-09-058-489-22
US-09-058-489-22
US-09-227-357-171
US-09-227-357-193
US-09-227-357-193
US-09-227-357-193
US-09-227-357-285
US-09-227-357-285
US-09-227-357-285
US-09-227-357-249
US-09-227-357-249
US-09-227-357-249
US-09-227-357-249
US-09-227-357-265
US-09-227-357-265
US-09-227-357-265
US-09-227-357-265
US-09-227-357-267
US-09-227-357-267
US-09-227-357-267
US-09-227-357-267
US-09-227-357-267
US-09-227-357-656
US-09-227-357-656
US-09-227-357-656
US-09-227-357-657
US-09-227-357-657
US-09-227-357-657
US-09-227-357-657
                                                                                                                                                                                                                                                                                                                 5498499-2

08-09-404-936-2

0S-09-265-630-13

0S-08-704-7118-1

0S-09-521-220-1

0S-09-227-357-538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               36,203
FR: 0609.3840002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: PCT/US95/17111A FILING DATE: CLASSIFICATION DATA: PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/340,426 FILING DATE: 14-NOV-1994 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (202) 371-2600
TELEFAX: (202) 371-2540
INFORMATION FOR SEQ ID NO: 121:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Ludwig, Steven R.
REGISTRATION NUMBER: 36,203
REFERENCE/DOCKET NUMBER: 06
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: D.C.
COUNTRY: U.S.A.
ZIP: 20005-3934
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy di
 RESULT 1
PCT-US95-17111A-121
 116
113.5
113
113
111.5
109
                                                                                                                                                                                            127
124
123.5
123
   000
                                                                                                                                                                                                                                                                                                                                                                                    (without alignments)
6109.704 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 121,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
                                                                                  ; Search time 53.1083 Seconds
                                                                                                                                                          1 acagacgaatacatggtcca......tcaaactcctgacctcagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
             GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd

    protein search, using frame_plus_n2p model

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-605-785-573
US-09-605-785-573
US-09-288-143-168
US-09-288-143-168
US-08-454-557C-121
US-08-450-673C-121
US-08-450-673C-121
US-08-450-673C-121
US-08-450-673C-121
US-08-450-673C-121
US-08-450-673C-121
PCT-US95-17111A-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PCT-US95-17111A-121
                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                       262574 seqs, 29422922 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                             0.5
0.7
0.0
                                                                                  June 14, 2003, 18:13:03
                                                                                                                                                                                       Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Issued_Patents_AA:*
                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                 US-09-966-880A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       132
1132
1110
99
375
375
375
375
375
                                                                                                                                                                               BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match
                                                                                                                                 Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       286
255
238.5
237
237
237
237
237
237
236
236
236
236
236
236
                                                                                                                                                                               Scoring table:
```

Database :

Result No.

```
3746 AGAITCICCIGCCICAGCCC-CCIAGIAGCIGGGACCACAGGCACAIGCCACCAIGCCCG 3688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 573, Application US/09605785
Patent No. 6321716
GENERAL INFORMATION:
APPLICANT: Xu, Jiangchun
APPLICANT: Dillon, Davin C.
APPLICANT: Mitchan, Jennifer L.
APPLICANT: Harlocker, Susan L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Jiang, Yuqui
Henderson, Robert A.
Kalos, Michael D.
Fanger, Gary R.
Retter, Marc W.
Stolk, John A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Day, Craig H.
Vedvick, Thomas
Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1e-24
286.00
65.42%
56.07%
2.97%
                                                                                                                                                                                                                                                                                          3573 GAGCCACCAC 3564
                                                                                                                                                                                                                                                                                                                                        391 lThrProHis 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Homo sapiens
US-09-605-785-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Li, Samuel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                        -09-605-785-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Fast
SEQ ID NO 573
LENGTH: 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score:
                                                                                                         à
                                                                                                                                                  g
                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----ATTTTTGTGGAGAATGGAGTTTCACTGTGTTGCCCCAGGCTGGTCTTGAACTCCT 4340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4280 CTATGCCTGCCCTGATTTGCTTTCTGTAACTA-----TAAGTTACTTTCATTTTCT 4230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGTICTAGCAATCTTCCCA-CGTGGCCTCTCAAAGTGCTGGGATTACAGGTGTGAGCCT 4281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4229 AGAATTICGTAIGG-----CAIACATTAICTCCTICCTICAIGICTGACTTICATTTA 4176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4115 TCCATTGCATGGATATAGCACATTTTGTTTATTTGTTCACTTGTTGATGATATTTGGAT 4056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97 AlaAsnPheCysGlyArgAsnArgValSerLeuMetCysProSerTrpSer-----Pro 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----GTGTGGATAT 3987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3926 AAATACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGCTCTTTGTAGTTG 3867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1866 ITICCATTTATTTTAATTTTTCTTCTTATTTTTTGAGGCCAAGGTCTGGTCCTGTCACC 3807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3806 CAGGCTGGAGTGCAGTGCGCAAGCACTGATGCAGCCTTGACTCCTGGGCTCCAA 3747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   235 roSerLeuLeuSerSerTrpAspTyrArgArgProProArgLeuAlaAsnPhePheValP 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             77 ProSerArgProProLysValLeuAspThrGlyLeuSerThrMetProGlyLeuCysLeu 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4175 GCGTCATGACTTTGGGATTCATCCCCAAGTAGCTTCTTCCTTTGTACTGCAGGGTGGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4055 AGTCTCTACTTTGGGGTTTTGTG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----IlePheAsnPheLeuArgGlnSerLeuAsnSerValThrGlnAlaGlyValG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183 --GlyThrLysAspMetHisHisTyrThrTrpLeuile-----PheilePhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3986 ACATTGAGAATTGATATTTTAATAATGTAGTGCAGGTGACAGACCCTGACTTTAAAAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----AATAAAGGTACTATGAACATTCACGTACCAGTCTTT-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      294 laArgPro-IlePheAsnPheCys-----LeuPheGluMetGluSerHisSerValThr
                                                                                                                                                                                                                                                                                                                                                                                          4441 CCTTCCCCTCCCCACAGGACAACCACTGATTTGCTTTTTTTCCC----
                                                                                                                                                                                          397
123
31
114
114
80
                                                                                                                                                                                                                                                                                                                                             US-09-966-880A-9 (1-5514) x PCT-US95-17111A-121 (1-397)
                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                              1.4e-26
304.00
44.51%
35.55%
3.16%
SEQUENCE CHARACTERISTICS:
LENGTH: 397 amino acids
TYPE: amino acid
                                           TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
PCT-US95-17111A-121
                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4339 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      312
                                                                                                                                                                                        ..
0
                                                                                                                                                                                                              Score:
                                                                                                                                                                                      Pred.
                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
```

```
3687 GCTAATTTTTGTT----ATAGAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGA 3634
                                                                         371
                   351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3851 AATTTTTCTTCTTATTTTTGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAG 3792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3731 AGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCACCATGCCCGGCTAATTTTTGT--- 3676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THE THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  132
60
10
33
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Wang, Aljun
APPLICANT: Skeiky, Yasir A.W.
APPLICANT: Hepler, William
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TITLE OF INVENTION: DIAGNOSIS OF PROSTATE CANCER FILE REPERBNCE: 210121.427C16
CURRENT APPLICATION NUMBER: US/09/605,785
CURRENT FILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-966-880A-9 (1-5514) x US-09-605-785-573 (1-132)
```

```
R PILING DATE: 1997-07-08
R APPLICATION NUMBRR: 66/051,928
R PILING DATE: 1997-07-08
R APPLICATION NUMBRR: 66/055,722
R FILING DATE: 1997-08-18
R APPLICATION NUMBER: 66/055,723
R R FILING DATE: 1997-08-18
R APPLICATION NUMBER: 66/055,723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R FILING DATE: 1997-08-18
R APPLICATION NUMBER: 60/055,949
R FILING DATE: 1997-08-18
R PELLING DATE: 1997-08-18
R RELING DATE: 1997-08-18
R APPLICATION NUMBER: 60/055,950
R FILING DATE: 1997-08-18
R PELLING DATE: 1997-08-18
R FILING DATE: 1997-08-18
R FILING DATE: 1997-08-18
R PLICATION NUMBER: 60/055,947
R PELLING DATE: 1997-08-18
                                                                                                                                                                                                                                                                                                                                                                                                                            R FILING DATE: 1997-07-08
R APPLICATION NUMBER: 60/051,916
R FILING DATE: 1997-07-08
R FILING DATE: 1997-07-08
R FILING DATE: 1997-07-08
R APPLICATION NUMBER: 60/051,930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/052,733
FILING DATE: 1997-07-08
APPLICATION NUMBER: 60/052,795
FILING DATE: 1997-07-08
APPLICATION NUMBER: 60/051,919
                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 60/052,732
FILING DATE: 1997-07-08
APPLICATION NUMBER: 60/051,931
FILING DATE: 1997-07-08
APPLICATION NUMBER: 60/051,932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1997-07-08
APPLICATION NUMBER: 60/051,920
FILING DATE: 1997-07-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 1997-09-12
APPLICATION NUMBER: 60/058,664
FILING DATE: 1997-09-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 1997-08-18
APPLICATION NUMBER: 60/056,360
ELING DATE: 1997-08-18
APPLICATION NUMBER: 60/055,684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/058,785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EARLIER APPLICATION NUMBER: 60/058,660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1997-08-18
APPLICATION NUMBER: 60/055,984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60/055,954
                             Sequence 193, Application US/09227357
Patent No. 6342581
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1997-08-18 APPLICATION NUMBER: 60/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1997-08-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EARLIER REARLIER BEARLIER BEARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EARLIER I
EARLIER I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EARLIER
EARLIER
EARLIER
EARLIER
EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EARLIER
EARLIER
EARLIER
EARLIER
EARLIER
EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EARLIER
EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EARLIER DE PARTIER DE
                                                                                                                                                                                                                                                                                                                                                                                 EARLIER
EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                              EARLIER
EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                             EARLIER
EARLIER
EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EARLIER
EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EARLIER
EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EARLIER
EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EARLIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5403 GGTAGATGGGATTACAGGCGCCCCACCACCACCTCGGCTAATGTTTGTATTTTTAGTAGA 5462
---TATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                            3618 CGATCCACCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCACCACCACCTG 3559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5283 TTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATGGCATGAY 5342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5343 CATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCG 5402
                               PheSerArgAspGlyValSerLeuCysCysSerGlyTrpSerLysThrProGlyLeuGln 104
                                                                              5463 GATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: SKEIKY, YASSIR A.W.
APPLICANT: Hepler, William
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF PROSTATE CANCER
FILE REFERENCE: 210121.427C16
CURRENT APPLICATION NUMBER: US/09/605,785
CURRENT PILING DATE: 2000-06-27
NUMBER OF SEQ ID NOS: 835
SOFTWARE: FASTSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 132
50
4
23
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-966-880A-9 (1-5514) x US-09-605-785-573 (1-132)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels:
                                                                                                                         3558 GCTGTCTGTTTCACTTTAAAT 3538
                                                                                                                                                                                                                   Sequence 573, Application US/09605785 Patent No. 6321716 GENERAL INFORMATION:
                                                                                                                                                       125 AlaCysHisIleLeuLeuAsn 131
                                                                                                                                                                                                                                                                                                                              Jiang, Yuqui
Henderson, Robert A.
Kalos, Michael D.
Fanger, Gary R.
Retter, Marc W.
Stolk, John A.
                                                                                                                                                                                                                                                                APPLICANT: Xu, Jiangchun
PPPLICANT: Dillon, Davin C.
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Harlocker, Susan L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4.61e-21
255.00
70.13%
64.94%
2.64%
                                                                                                                                                                                                                                                                                                                                                                                                                          Day, Craig H.
Vedvick, Thomas S.
Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Li, Samuel
Wang, Aijun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: Homo sapiens
US-09-605-785-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
                                                                                                                                                                                                      US-09-605-785-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 573
LENGTH: 132
                                                                                                                                                                                                                                                                                                                                                            APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       48
3675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No.:
                           8
                                                                                       g
                                                                                                                         ò
                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                            à
```

```
LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY
                                                                                                                                                       Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                           δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5367 CCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCA 5426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5307 GGTCTTGTTGCCCATGCTGGAGTGGAATGGCATGAYCATAGCTCACTGCAACCTCCACCT 5366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5427 CCACCACACTCGGCTAATGTTTGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCA 5486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              47 ProArgPheGlnArgPheSerCysLeuSerLeuLeuAsnSerTrpAspTyrArgArgPro 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              110
50
8
25
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-966-880A-9 (1-5514) x US-09-227-357-193 (1-110)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION : 31 Human Secreted Proteins FILE OF INVENTION : 53 Human Secreted Proteins FILE OF INVENTION : 53 Human Secreted Proteins FILE OF INVENTION : 53 Human Secreted Proteins CURRENT APPLICATION NUMBER: US/09/288,143 CURRENT FILING DATE: 1999-04-08 EARLIER FILING DATE: 1997-10-09 EARLIER FILING DATE: 1997-10-09 EARLIER APPLICATION NUMBER: 60/061,529 EARLIER APPLICATION NUMBER: 60/061,529 EARLIER FILING DATE: 1997-10-09 EARLIER APPLICATION NUMBER: 60/061,536 EARLIER APPLICATION NUMBER: 60/061,536 EARLIER FILING DATE: 1997-10-09 SARLIER FILING DATE: 1997-10-09 NUMBER OF SEQ ID NOS: 219 SEQ ID NOS: 219 SEQ ID NOS: 219 SEQ ID NOS : 210 SEQ ID
                                                                                                                                                                                                                                                   FEATURE:

NAME/KEY: SITE

LOCATION: (110)

OTHER INFORMATION: Xaa equals stop translation
US-09-227-357-193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EARLIER FILING DATE: 1997-09-12
EARLIER APPLICATION UNMERS: 60/058,661
EARLIER FILING DATE: 1997-09-12
NUMBER OF SEQ ID NOS: 672
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 168, Application US/09288143
Patent No. 6433139
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2.43e - 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             248.50
65.91%
56.82%
2.57%
                                                                                                                                                                                               TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -09-288-143-168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5487
                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
```

```
3696 CCATGCCCGGCTA----ATTTTTGTTATAGAAACAGGGTTTTGCCATGTTGCTCAGGC 3643
                                                                                                                                                                                                                                                                 3813 TGTCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGG 3754
                                                                                                                                                                                                                                                                                                                                                 3753 GCTCCAAAGATTCTCCTGCCTCAGC---CCCCTAGTAGCTGGGACCACAGGCACATGCCA 3697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3642 IGGTCTTGAACTCCAGGGCTCAAGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGAT 3583
                                                                                                                                                                                                                                                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 121, Application US/08454557C
Patent No. 2830670
GBNERAL INFORMATION:
APPLICANT: Wands, Jack R.
TITLE OF INVENTION: of Alzheimer's Disease
INVERTION: of Alzheimer's Disease
CORRESPONDENCES: 121
CORRESPONDENCE ADDRESSE:
ADDRESSEE: Sterne, Kessler, Goldstein & Fox P.L.L.C.
                                                                                                                                                                                                                                                                                                                                                                               22 ValGlnAlaIleLeuMetAsp-SerAlaSerGlnValAlaGlyIleThrSerValH1SH1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTEY: U.S.A.

ZIP: 2005-3934

COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN RC-BOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/454,557C
FILING DATE: 30-MA-1995
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
                                                                                    23
23
23
                                                                                                                          Conservative:
                                                                                                                                                                                                                         US-09-966-880A-9 (1-5514) x US-09-288-143-168 (1-99)
                                                                                                                                             Mismatches:
Indels:
                                                                                Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Sterne, Kessler, Goldstein & STREET: 1100 New York Avenue, Suite 600
                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0609.3840003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3582 TACAGGCGTGAGCCACCACACCTGG 3558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81 eThrGlyMetSerHisHisSerTrp 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: LUGAIG, Steven R.
REGISTATION NUMBER: 36,203
REFERENCE/DOCKET NUMBER: 0609.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2600
INFORMATION FOR SEO ID NO: 121:
SEQUENCE CHARACTERISTICS:
                                                                                    3.48e-19
                                                                                                     238.50
69.66%
57.30%
2.48%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 : 375 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: protein
; ORGANISM: Homo sapiens
US-09-288-143-168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Washington STATE: D.C.
                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 6
US-08-454-557C-121
                                                           Alignment Scores:
```

324

344

```
1567 ACCCATTTAAGATGCATAATTCTACGAATATTTTGGATGTAAACACCCCCAAACTGCTAC 4508
                                                                                                        706 GCACATGCCACCATGCCCGGCTAATTTTTGT-----TATAGAAACAGGGTTTTGCCATG 3653
                                                                                                                          TITLE OF INVENTION: Neural Thread Protein Gene Expression and Detection TITLE OF INVENTION: of Alzheimer's Disease NUMBER OF SEQUENCES: 121
CORRESPONDENCE ADDRESS:
 tGluSerHisSerValThrGlnAlaGlyValGlnTrpProAsnLeuGlySerLeuGlnPr
                                              TTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTCAGCCC-CCTAGTAGCTGGGACCACAG
                                                              45 ThrHisAlaArgLeuIleLeuTyrPhePheLeuValGluMet------GluPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACAGTCAGGATACAGAACCTGAATCACCACCTCACCCCACCAGAGCTTCTTCCCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ||||
|HisValGlyGlnAlaGlyLeuGluLeuProThrSerAspAspProSerVal----Ser
                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: Sterne, Kessler, Goldstein & Fox P.L.L.C.
STREET: 1100 New York Avenue, Suite 600
CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 375
116
38
123
98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-966-880A-9 (1-5514) x US-08-340-426D-121 (1-375)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative:
Mismatches:
Indels:
                                                                                                                                                                      3652 TTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                                                                                                      364 rLeuSerGlyTrpSerGlnThrProAspLeuArg 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0609.3840002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/340,426D
FILING DATE: 14-NOV-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                         Sequence 121, Application US/08340426D
Patent No. 5948634
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: 0609
TELECOMMUNICATION INFORMATION:
TELEFAN: (202) 371-2600
TELEFAN: (202) 371-2600
INFORMATION FOR SEQ ID NO: 121:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                          APPLICANT: de la Monte, Suzanne APPLICANT: Wands, Jack R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Ludwig, Steven R. REGISTRATION NUMBER: 36,203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.12e-18
237.00
41.40%
31.18%
2.46%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : 375 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 20005-3934
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: U.S.A.
ZIP: 20005-3934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: D.C.
                                                                                                                                                                                                                                              US-08-340-426D-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-340-426D-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGIH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4507
                                              3765
               304
                                                                          324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                 g
                                              ò
                                                                     g
                                                                                                  οy
                                                                                                                                qq
                                                                                                                                                                      ð
                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                4448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3936
                                                                                                                                                                                                                                                                                                                                                                       4331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .130 ACTGCAGGGTGGTATTCCATTGCATGGATATAGCACATT--------TTGTTT 4086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----TTGGATAGTCTC 4050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 875 TTGTAGTTGTTTCCATTT-----ATTTTTAATTTTTCTTCTTATTTTTTGAGGC 3826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1825 AAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCC 3766
                                                                                                                                                                                  4567 ACCCATITAAGAIGCATAAITCIACGAAIAITITIGGAIGIAAACACCCCAAACIGCIAC 4508
                                                                                                                                                                                                                                                                                                         ---TCA 4236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITICTAGAATITCGTATGGCATA------CATTATCTC---CTCCTTCATGTC 4191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1190 TGACTCTTTCATTTAGCGTCATGACTTTGGGATTCATCCCCAAGTAGCTTCTTCCTTGT 4131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1935 ITAAAAGITAAATACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGCTCT 3876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               260
                                                                                                                                                                                                                                                                                                                                                                                     286
                                                                                                                                                                                                                                                                                                                                                                                                                                                  |||||||::
|GInSerThrCysLeuSerLeuProLysCysTrpAspTyrArgArgAlaAlaValProGly 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              :::|||:::::: |||
TrpCysAspHisSerSerLeuGlnProSerThrProGluIleLysHisProProAlaSer 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       213 GlyValGlnTrpArgAsnLeuGlySerLeuGlnProLeuProProGlyPheLysLeuPhe 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 eThrGlyValSerHisHisAlaArgLeuIlePheAsnPheCys-----LeuPheGluMe 304
                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                            79
                                                                                                                                                                                                                                                                                                                                         66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :::|||:::|||::::
------AlaSerAlaSerGlnSerAlaGlyIl
                                                                                                                                                                                                                                              CACAGTCAGGATACAGAACCTGAATCACCACCCTCACCCCACCAGAGCTTCTTCCCTCTT
                                                                                                                                                                                                                                                                                                                                       80 AlaSerGlnSerAlaArgTyrArgThrGlyHisHisAlaArgLeuCysLeuAlaAsnPhe
                                                                                                                                                                                                                                                                                                                                                                     GTG---GAGAATGGAGTTTCACTGTGTTGCCCAGGCTGGTCTTGAACTCCTGAGTTCTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1989 TATACATTG-----AGAATTGATATTTTAATAATGTAGTGCAGGTGACAGACCCTGACT
                                                                                                                                                                                                                ThrHisAlaArgLeuIleLeuTyrPhePheLeuValGluMet------GluPheLeu
                                                                                                                                                                                                                                                                           HisValGlyGlnAlaGlyLeuGluLeuProThrSerAspAspProSerVal----Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           197 PhellePheAsnPheLeuArg------GlnSerLeuAsnSerValThrGlnAla
                                              375
1116
38
123
98
20
                                                            Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                   US-09-966-880A-9 (1-5514) x US-08-454-557C-121 (1-375)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .085 ATTTGT---TCACTTGTTGATGGATAT------
                                            ength:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1259 TTCTGTAACTATAAGTTACTT----
                                          1.12e-18
237.00
41.40%
31.18%
2.46%
                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
JS-08-454-557C-121
                              Alignment Scores:
                                                                                                                                                                                                                                            4507
                                                                                                                                                                                                                                                                                                                                                                     1387
                                                                                                                                                                                                                                                                                                                                                                                                                                                              118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1235
                                                                                                                                                                                                              45
                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                   100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             253
                                            Pred. No.:
                                                                                                                                                                                   õ
                                                                                                                                                                                                           g
                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

4448

79

```
Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                           : 375 amino acids amino acids
                                                                                                                                                              COMPUTER READABLE FORM: MEDIUM TYPE: Floppy of
                                                                                                                                                                                                                                                                                                                                                                                                                                   protein
GENERAL INFORMATION:
                                                                                                                                      COUNTRY: U.S.A. ZIP: 20005-3934
                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-450-673C-121
                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores
                                                                                                                                                                                                                                                                                                                                                                                             LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pp
 4447 IGCAGICCIICCCCICCCCACAGGACAACCACIGAIIIGCIIITIIIIITICCAIIIII 4388
                                                                                                           4293
                                                  387 GIG---GAGAAIGGAGITICACIGIGIIGCCCAGGCIGGICIIGAACICCIGAGIICIAG 4331
                                                                                                                                                      -----AGGIGIGAGCCICTAIGCCIGCCCIGAIIIGCI 4260
                                                                                                                                                                                                                                                     .235 ITTICTAGAATTICGTATGGCATA-------CATTATCTC---CTCCTTCATGTC 4191
                                                                                                                                                                                                                                                                                                     190 JGACTCTTTCATTTAGCGTCATGACTTTGGGATTCATCCCCAAGTAGCTTCTTCCTTTGT 4131
                                                                                                                                                                                                                                                                                                                                                                                                          1085 ATITGT---TCACTIGITGAIGGAIAT------------TTGGAIAGICIC 4050
                                                                                                                                                                                                                                                                                                                                                                                                                                                          049 TACTITGGGGTTTTGTGAATAAAGGTACTATGAACATTCACGTACCAGTCTTTGTGTGGA 3990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3989 TATACATTG-----AGAATTGATATTTTAATAATGTAGTGCAGGTGACAGACCCTGACT 3936
                                                                                                                3935 TTAAAAGTTAAATACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGCTCT 3876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8875 ITGTAGTIGTITCCAITT-----ATITITAATITITCTICTATITITITGAGG 3826
                                                                 138 LeuphelleLeuPhePheLeuArgHisArgCysProThrLeuThrGlnAspGluValGln 157
                                                                                                                                                                                                                            158 TrpCysAspHisSerSerLeuGlnProSerThrProGluIleLysHisProProAlaSer 177
                                                                                                                                                                                                                                                                      3706 GCACATGCCACCATGCCCGGCTAATTTTTGT-----TATAGAAACAGGGTTTTGCCATG 3653
                                                                                                                                                                                                                                                                                                                                PhellepheAsnPheLeuArg------GinSerLeuAsnSerValThrGlnAla 212
                                                                                                                                                                                                                                                                                                                                                                             213 GlyValGlnTrpArgAsnLeuGlySerLeuGlnProLeuProProGlyPheLysLeuPhe 232
                                                                                                                                                                                                                                                                                                                                                                                                                         253 ------PheValPheLeuValGluMetGly 260
                                 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              80 AlaSerGlnSerAlaArgTyrArgThrGlyHisHisAlaArgLeuCysLeuAlaAsnPhe
                                                                                                                                                                                                     TTCTGTAACTAAAGTTACTT-----TCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----AlaSerAlaSerGInSerAlaGlyII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3825 AAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261 PheThrMetPheAlaArgLeu---1leLeuIle-SerGlyProCysAspLeuPro----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3765 TIGACCICCIGGGCICCAAAGAIICICCIGCCICAGCCC-CCIAGIAGCIGGGACCACAG
                                                                                                  330 CAATCTTCCCA-CGTGGCCTCTCAAAGTGCTGGGATTAC------
                                                                                                                                                                                                                                                                                                                                                       1130 ACTGCAGGGTGGTATTCCATTGCATGGATATAGCACATT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3652 TTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  364 rLeuSerGlyTrpSerGlnThrProAspLeuArg 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 8
US-08-450-673C-121
; Sequence 121, Application US/08450673C
; Patent No. 5948888
                                                                                                                                                      4292 -----
                                                                             100
                                                                                                                                                                                                       1259
                                                                                                                                                                                                                                                                                                                                 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        286
                                                 õ
                                                                       g
                                                                                                   ò
                                                                                                                       qq
                                                                                                                                                  ò
                                                                                                                                                                         g
                                                                                                                                                                                                   à
                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                    o
P
P
                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                            QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
4567 ACCCATTTAAGATGCATAATTCTACGAATATTTTGGATGTAAACACCCCAAACTGCTAC 4508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4507 CACAGTCAGGATACAGAACCTGAATCACCACCTCACCCCACCAGAGCTTCTTCCCTCTT 4448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                447 IGCAGICCIICCCCICCCACAGGACAACCACIGAITIGCIIITITITICCCAIIIII 4388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1292 ------GGTGTGAGCCTCTATGCCTGATTAGCT 4260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -TCA 4236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100 CysGlyArgAsnArgValSerLeuMetCysProSerTrpSer-----ProGluLeuLys 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Expression and Detection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 138 LeuPheIleLeuPhePheLeuArgHisArgCysProThrLeuThrGlnAspGluValGln 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45 ThrHisAlaArgLeuIleLeuTyrPhePheLeuValGluMet------GluPheLeu 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1387 GTG---GAGAATGGAGTTTCACTGTGTTGCCCAGGCTGGTCTTGAACTCCTGAGTTCTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80 AlaSerGlnSerAlaArgTyrArgThrGlyHisHisAlaArgLeuCysLeuAlaAsnPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4330 CAATCTTCCCA-CGTGGCCTCTCAAAGTGCTGGGATTAC------
                                                                                                                                      P.L.L.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         375
1116
38
38
1123
20
                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PAtentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450,673C
FILING DATE: 30-MAY-1995
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
APPLICANT: de la Monte, Suzanne
APPLICANT: Wands, Jack R.
TITLE OF INVENTION: Neural Thread Protein Gene
TITLE OF INVENTION: of Alzheimer's Disease
NUMBER OF SEQUENCES: 121
ADDRESS.
ADDRESS: ALERTE, GOLDSTEIN & FOX P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-966-880A-9 (1-5514) x US-08-450-673C-121 (1-375)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches:
Conservative:
Mismatches:
Indels:
                                                                                           STREET: 1100 New York Avenue, Suite 600 CITY: Mashington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0609.3840004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4259 TTCTGTAACTATAAGTTACTT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Ludwig, Steven R.
REGISTRATION NUMBER: 36,203
REFERENCE/DOCKET NUMBER: 0609.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2600
TELEPHONE: (202) 371-2540
INFORMATION FOR SED ID NO: 121:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.12e-18
237.00
41.40%
31.18%
2.46%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
```

q

ŏ g õ g ò g ò g ò QQ

õ

qq

ò

a

ò

q

ò

Q

å

qq

ò g

ò

```
5276 TTTTTTTTTTTTTTTTTGAGATGGAGTTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATG 5335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5396 CCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACCACCACTTCGTATTTT 5455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5336 GCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAG 5395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 121, Application US/08340426D
Patent No. 5948634
GENERAL INFORMATION
APPLICANT: de la Monte, Suzanne
APPLICANT: Wands, Jack R.
TITLE OF INVENTION: Neural Thread Protein Gene Expression and Detection
TITLE OF INVENTION: Of Alzheimer's Disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5456 TAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E: Sterne, Kessler, Goldstein & Fox P.L.L.C. 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                  375
49
3
27
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/340,426D
FILING DATE: 14-NOV-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-966-880A-9 (1-5514) x US-08-454-557C-121 (1-375)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative:
Mismatches:
                                                         ATTORNEY AGENT INFORMATION:
NAME: Ludwig, Steven R.
REGISTRATION NUMBER: 36, 203
REFERENCE/DOCKET NUMBER: 0609.3840003
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2600
INFORMATION FOR SEQ ID NO: 121:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: Ludwig, Steven R.
REGISTRATION NUMBER: 36,203
                                                                                                                                                                                                                                                                                                                                                                                                                    1.47e-18
236.00
65.00%
61.25%
2.44%
                    30-MAY-1995
                                                                                                                                                                                                                                                                  LENGTH: 375 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, K
STREET: 1100 New YOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: U.S.A.
ZIP: 20005-3934
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                             linea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
                      FILING DATE: 30 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 10
US-08-340-426D-121
                                                                                                                                                                                                                                                                                                                                                    US-08-454-557C-121
                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                      4086
                                                                                                                                                                                                                                                                                                         085 ATTIGT---TCACTIGITGAIGGATAI--------TIGGAIAGICIC 4050
                                                                                                                                                                                                                                                                                                                                                                                             3989 TATACATTG-----AGAATTGATATTTTAATAATGTAGTGCAGGTGACAGACCCTGACT 3936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3935 TTAAAAGTTAAATACCAAAATATCAGCCTAACTAAGTAGCTCATCTAGGACAACAGCTCT 3876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3875 TTGTAGTTGTTTCCATTT-----ATTTTTAATTTTTCTTCTTATTTTTTGAGGC 3826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1825 AAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCC 3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3706 GCACATGCCACCATGCCCGGCTAATTTTTGT----TATAGAAACAGGGTTTTGCCATG 3653
                                             -----CATTATCTC---CTCCTTCATGTC 4191
                                                                                                                                190 TGACTCTTTCATTTAGCGTCATGACTTTGGGATTCATCCCCAAGTAGCTTCTTCTTTGT 4131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTCAGCCC-CCTAGTAGCTGGGACCACAG 3707
                                                                                                                                                                                                                                                                                                                                      ||| ||| ||||||:::
233 SerCysProSerLeuLeuSerSerTrpAspTyrArgArgProProArgLeuAlaAsnPhe 252
                                                                                                                                                                                                                                                                                                                                                                                                                                           260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    286
                                                                                                                                                                         -----GlnSerLeuAsnSerValThrGlnAla 212
                                                                                                                                                                                                                                                             GlyValGlnTrpArgAsnLeuGlySerLeuGlnProLeuProProGlyPheLysLeuPhe 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             324 oLeuProProGlyLeuLysArgPheSerCysLeuSerLeuProSerSerTrpAspTyrGl 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       344 yHisLeuProProHisProAlaAsnPheCysIlePheIleArgGlyGlyValSerProTy 364
TrpCysAspHisSerSerLeuGlnProSerThrProGluIleLysHisProProAlaSer 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: de la Monte, Suzanne
APPLICANT: de la Monte, Suzanne
APPLICANT: wands, Jack R.
TITLE OF INVENTION: Of Alzheimer's Disease
NUMBER OF SEQUENCES: 121
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, Kessler, Goldstein & Fox P.L.L.C.
STREET: 1100 New York Avenue, Suite 600
CITY: Mashington
STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ------PhevalPheLeuValGluMetGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ------AlaSerGlnSerAlaGLyIl
                                                                                                                                                                                                                    130 ACTGCAGGGTGGTATTCCATTGCATGGATATAGCACATT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3652 TTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           235 TTTTCTAGAATTTCGTATGGCATA----
                                                                                                                                                           :::|||::
| PheIlePheAsnPheLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 121, Application US/08454557C Patent No. 5830670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: U.S.A. ZIP: 20005-3934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-454-557C-121
158
                                                                                                                                                                         197
                                                                                                                                                                                                                                                             213
                                                                                                                                                                                                                                                                                                                                                                                                                                         253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
```

```
CITY: 1
STATE:
                                                                                                                                                                                           Query Match:
                                                                                                                                   ..
9
                                                                                                                                                                                                                                                                          ολ
                                                                                                                                                                                                                                                                                                      QΩ
                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                   5276 TITITITITITITITIGAGAIGGAGTITIGGICITGITGCCCATGCIGGAGIGGAAIG 5335
                                                                                                                                                                                                                                                                                                                                                                                                               5336 GCATGAYCATAGCTCCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAG 5395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5396 CCICCCGGGIAGAIGGGAITACAGGCGCCCACCACCACACACTCGGCIAAIGTITGIAITIT 5455
                                                                                                                                                                                                                                                                                                                                                                       Sequence 121, Application US/08450673C
Patent No. 5948888
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Wands, Jack R.
TITLE OF INVENTION: Neural Thread Protein Gene Expression and Detection NUMBER OF SEQUENCES: 121
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, Kessler, Goldstein & Fox P.L.L.C.
STREET: 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5456 TAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: D.C.

COUNTRY: U.S.A.

2IP: 20005-3934

COMPUTER READABLE FORM:

MEDINA TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/450,673C

CLASSIFICATION NUMBER: US/08/450,673C

CLASSIFICATION NUMBER: 050

ATTONEY/AGENT INFORMATION:

NAME: Lidwid; Steven R:

REGISTRATION NUMBER: 36,203

REGISTRATION NUMBER: 36,203

TELEPHONE: (202) 371-2500

TELEFAN: (202) 371-250

INFORMATION FOR SEQ ID NO: 121:

SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                   375
49
3
27
1
                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                 US-09-966-880A-9 (1-5514) x US-08-340-426D-121 (1-375)
REFERENCE/DOCKET NUMBER: 0609.3840002
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2560
TELEFAX: (202) 371-2540
INFORMATION FOR SEQ ID NO: 121:
SEQUENCE CHARACTERISTICS:
LENGTH: 375 amino acids
                                                                                                                                                                                                         1.47e-18
236.00
65.00%
61.25%
2.44%
                                                                                                                           TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 1100 New CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                        US-08-340-426D-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
US-08-450-673C-121
                                                                                                                                                                                          Alignment Scores:
                                                                                                                                                                                                                           Score:
                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
5276 ITTTTTTTTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATG 5335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5336 GCATGAYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAG 5395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5396 CCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACCACGCTAATGTTTGTATTT 5455
                                                                                                                                                                                                                                                                                                                                                                                                                            11111 | 111::
316 pProAsnLeuGlySerLeuGlnProLeuProProGlyLeuLysArgPheSerCysLeuSe 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 121, Application PC/TUS9517111A
Sequence 121, Application PC/TUS9517111A
Sequence 121, Application PC/TUS9517111A
Sequence 121, Application PC/TUS9517111A
Sequence 121, Application Sequence
TITLE OF INVENTION: Neural Thread Protein Gene Expression and TITLE OF INVENTION: Detection of Alzheimer's Disease
NUMBER OF SEQUENCES: 121
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, Kessler, Goldstein & Fox P.L.L.C.
STREET: 1100 New York Avenue, Suite 600
CITY: Mashington
                                                                                                                                                                               375
49
3
27
1
                                                                                                                                                                                                                                                                                                                                       US-09-966-880A-9 (1-5514) x US-08-450-673C-121 (1-375)
                                                                                                                                                                                                   Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/17111A
                                                                                                                                                                                                                                                                              Indels:
                                                                                                                                                                                 Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AFTLING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/340,426
FILING DATE: 14-NOV-1994
ATTORNEY/ABENT INFORMATION:
NAME: Ludwig, Steven R.
REGISTRATION NUMBER: 36,203
REERRENEN_COCKET NUMBER: 0609.38
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-260
TELEPAN: (202) 371-260
TELEPAN: (202) 371-260
TELEPAN: (202) 371-260
TELEPAN: (302) 371-260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER FEADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
                                                                                                                                                                  1.47e-18
236.00
65.00%
61.25%
2.44%
LENGTH: 375 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                     // MOLECULE TYPE: protein
US-08-450-673C-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: U.S.A.
ZIP: 20005-3934
                                                                                                                                             Alignment Scores:
```

σ

```
1009 ProProProGlyPheLysArgPheSerHisLeuSerLeuProAsnSerTrpAsnTyrArg 1028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3633 ACTCCAGGGCTCAAGCGATCCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGT 3574
                5361 CCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGTAGATACAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NESULY 14

OBSOLUTION

Sequence 22, Application US/09058489

Sequence 22, Application US/09058489

Patient No. 6103886

GENERAL INFORMATION:

APPLICANT: Histehead Institute for Biomedical Research

APPLICANT: Lahn, Bruce

APPLICANT: Lahn, Bruce

TITLE OF INVENTION: Genes in the No. 6103886-Recombining Region of

TITLE OF INVENTION: the Y Chromosome

TITLE OF INVENTION: UNMBER: NS/09/058,489

CURRENT FILING DATE: 1998-04-10

EARLIER APPLICATION NUMBER: 60/041,877

EARLIER FILING DATE: 1997-04-11

NUMBER OF SEQ ID NOS: 91

SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1079
44
5
21
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 577, Application US/09227357

Patent No. 6342581

GENERAL INFORMATION:

TITLE OF INVENTION: 123 Human Secreted Proteins

TITLE OF INVENTION: 123 Human Secreted Proteins

CURRENT APPLICATION NUMBER: US/09/227,357

CURRENT FILING DATE: 1999-01-08

EARLIER PILING DATE: 1998-07-07

EARLIER FILING DATE: 1998-07-07

EARLIER PLILING DATE: 1998-07-08

EARLIER PLILING DATE: 1998-07-08

EARLIER PLILING DATE: 1997-07-08

EARLIER PLILING DATE: 1997-07-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-966-880A-9 (1-5514) x US-09-058-489-22 (1-1079)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5481 TGGCCAGGCTGGTCTCAAACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.85e-15
212.00
69.01%
61.97%
2.19%
                                                                                  3573 GAGCCACCAC 3564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-227-357-577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-058-489-22
                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                         Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Óγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                               ò
                                                                                          q
                                                                                                                                                                                                                                                      TITITITITITITITITITIGAGATGGAGTITITGGTCTTGTTGCCCCATGCTGGAGTGGAATG 5335
                                                                                                                                                                                                                                                                                                                        5396 CCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACTCGGCTAATGTTTGTATTTT 5455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAA 3747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :::|||||||| :::||||||| :::
995 ArgAlaGlyMetGlnTrpCysAspLeuSerSerLeuGlnProProProProGlyPheLys 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTAATTTTTGTTATA-----GAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGA 3634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5456 TAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Whitehead Institute for Biomedical Research
APPLICANT: Whitehead Institute for Biomedical Research
APPLICANT: Lahn, Bruce
APPLICANT: David
TITLE OF INVENTION: Genes in the No. 6103886-Recombining Region of
TITLE OF INVENTION: the Y Chromosome
FILE REPERENCE: WH197-08pa
CURRENT APPLICATION NUMBER: US/09/058,489
CURRENT FILING DATE: 1998-04-10
EARLIER APPLICATION NUMBER: 60/041,877
EARLIER FILING DATE: 1997-04-11
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NOS: 91
SEQ ID NO 2.20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1079
53
8
20
4
                                               397
49
6
23
0
                                                                                                                                                          US-09-966-880A-9 (1-5514) x PCT-US95-17111A-121 (1-397)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
                                             Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-966-880A-9 (1-5514) x US-09-058-489-22 (1-1079)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 22, Application US/09058489 Patent No. 6103886 GENERAL INFORMATION:
                                    9.01e-17
221.00
68.75%
61.25%
2.29%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.6e-16
221.00
72.62%
63.10%
2.30%
                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Human
US-09-058-489-22
PCT-US95-17111A-121
                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                               ..
Q
                                               Pred.
                                                                                                                                                                                            ð
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                      δλ
                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

5420

Query Match: DB:

EARLIER APPLICATION NUMBER: 60/051,925
EARLIER FILING DATE: 1997-07-08
EARLIER PILING DATE: 1997-07-08
EARLIER APPLICATION NUMBER: 60/051,931
EARLIER APPLICATION NUMBER: 60/051,931
EARLIER APPLICATION NUMBER: 60/051,932
EARLIER PILING DATE: 1997-07-08
EARLIER APPLICATION NUMBER: 60/051,918
EARLIER PILING DATE: 1997-07-08
EARLIER PILING DATE: 1997-08-18
EARLIER PILING DATE: 1997-09-12
EARLIER PILING DATE: 1997-09-18
EARLIER PORDICATION NUMBER: 60/055,954
EARLIER PILING DATE:

35

Length: Matches: Conservative: Mismatches:

1.53e-14 198.00 71.70% 66.04%

Percent Similarity: Best Local Similarity:

Alignment Scores: Pred. No.:

; ORGANISM: Homo sapiens US-09-227-357-577

5415 TACAGGCGCCCACCACCACCACCACGCTAATGTTTGTATTTTTAGTAGAGATGGGGTTTCA 5474 5355 CAACCICCACCICCIGGGITCAAGCAAAGCIGICGCCICAGCCICCCGGGIAGAIGGGAT 5414 5475 CCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAGA 5513 US-09-966-880A-9 (1-5514) x US-09-227-357-577 (1-56) Search completed: June 14, 2003, 19:00:00 Job time : 91.1083 secs ò q ò qq á

```
APPLICANT: Recipon, House to APPLICANT: Recipon, House to APPLICANT: Recipon, House to APPLICANT: Caffarkey, Robert
APPLICANT: Caffarkey, Robert
APPLICANT: Sun, Yongming
APPLICANT: Liu, Chenghua
APPLICANT: Chen, Sel-Yu
TITLE OF INVENTION: Compositions and Methods Relating to Prostate Specific Genes a TITLE OF INVENTION NUMBER: US/09/995,494
CURRENT FILING DATE: 2001-11-27
CURRENT FILING DATE: 2000-11-27
PRIOR APPLICATION NUMBER: 60/253,176
PRIOR FILING DATE: 2000-11-27
NUMBER OF SEQ ID NOS: 115
SOUTHARE: Patentin version 3.1
SEQ ID NO 107
LENGTH: 361
Sequence 135, App
Sequence 573, App
Sequence 573, App
Sequence 573, App
Sequence 573, App
Sequence 884, App
Sequence 884, App
Sequence 884, App
Sequence 884, App
Sequence 160, App
Sequence 110, App
Sequence 171, App
Sequence 110, App
Sequence 110, App
Sequence 510, App
Sequence 111, App
Sequence 117, App
Sequence 117, App
Sequence 117, App
Sequence 117, App
Sequence 510, App
Sequence 117, App
Sequence 117, App
Sequence 513, App
Sequence 573, App
Sequence 684, App
US-10-001-835-135
US-09-895-73
US-09-895-73
US-09-895-814-573
US-09-895-814-573
US-09-895-814-573
US-09-822-827-573
US-09-822-827-573
US-09-895-814-884
US-09-895-8143-884
US-09-895-9143-884
US-09-895-9143-884
US-09-895-9143-884
US-09-895-919-105
US-09-895-919-105
US-09-895-919-105
US-09-895-919-105
US-09-995-919-105
US-09-995-919-105
US-09-995-919-105
US-09-995-919-121
US-09-995-919-121
US-09-995-919-121
US-09-995-919-121
US-09-98-919-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-759-143-573
US-09-780-669-573
US-09-822-827-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-012-896-884
US-09-895-793-884
US-09-895-814-884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 107, Application US/09995494 Patent No. US20020127578A1 GENERAL INFORMATION:
                           Macina, Roberto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Salceda, Susana
 ORGANISM: Homo sapien
  \\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 1
US-09-995-494-107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-995-494-107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores
  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
                MODEL-frame+rap.model -DEV-xlp
-Q=/Cgn2_1/USPTO_spool/US09966880/runat_14062003_175526_10413/app_query.fasta_1.9493
-Q=/Cgn2_1/USPTO_spool/US09966880/runat_14062003_175526_10413/app_query.fasta_1.9493
-Q=/Cgn2_1/USPTO_spool/USO9966880/runat_14062003_175526_10413/app_query.fasta_1.9493
-LCOPCL=0 -LCOPEXT=0 -UNITS=bits -STARR=1 -END=-1 -MATR_blosum62
-TRANS=human40.cdi -LIST=45 -DOCALIGN=200 -TRR_SCORE=pct -THR_MAX=100
-THR_MIN=0 -ALIGN=15 -MODE=-LOCAL -OUTFWT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0
-MAXLEN=2000000000 -USER=US09966880_CCGM_1_1_LOS_cFUNAT_1526_10413
-NCPU=6 -FCPU=3 -NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSPBLOCK=100
-LONGLOG -DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5
-FGAPOP=6 -FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELCP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 107, App
Sequence 5337, Ap
Sequence 233, App
Sequence 207, App
                                                                                                       (without alignments)
6641.044 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Description
                                                                                           ; Search time 177.542 Seconds
                                                                                                                                                                         1 acagacgaatacatggtcca.....tcaaactcctgacctcagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Published_Applications_AA:*

1: /cgn2_6/ptodata/1/pubpaa/USOB_NEW_PUB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/USO6_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/USO7_PUBCOMB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/USO7_PUBCOMB.pep:*
7: /cgn2_6/ptodata/1/pubpaa/USO7_PUBCOMB.pep:*
8: /cgn2_6/ptodata/1/pubpaa/USO9_PUBCOMB.pep:*
9: /cgn2_6/ptodata/1/pubpaa/USO9_PUBCOMB.pep:*
10: /cgn2_6/ptodata/1/pubpaa/USO9_PUBCOMB.pep:*
11: /cgn2_6/ptodata/1/pubpaa/USO9_PUBCOMB.pep:*
12: /cgn2_6/ptodata/1/pubpaa/USO9_PUBCOMB.pep:*
13: /cgn2_6/ptodata/1/pubpaa/USO9_PUBCOMB.pep:*
13: /cgn2_6/ptodata/1/pubpaa/USO0_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/USO0_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/USO0_PUBCOMB.pep:*
              GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd
                                                                  protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-995-494-107
US-09-764-891-5337
US-09-989-920-233
US-10-082-830-207
                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                             408643 seqs, 106915682 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                             0.5
                                                                                         June 14, 2003, 18:26:00
                                                                                                                                                                                                           Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
                                                                                                                                                                                                                                                                                                                                length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.6666
                                                                                                                                             US-09-966-880A-9
9659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
93
107
126
                                                                                                                                                                                                 BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                        Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9 7 0 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               345.5
309
289.5
287
                                                                                                                                                                                                                                                                                                                            Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                 Scoring table:
                                                                  OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Database :
                                                                                                                                                                         sednence:
                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Result
No.
                                                                                         Run on:
```

```
5345
                                                                                                                                                                                                                            5405
                                                                                                                                                                                                                                                                         5406 AGAIGGGATTACAGGCGCCCACCACCACACTCGGCTAATGTTTGTATTTTTAGTAGAGAT 5465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5273 ITTITITITITITITITITIGAGAIGGAGITITIGGICTIGITGCCCAIGCIGGAGIGGA 5332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACCTCGGCTAATGTTTGTAT 5452
                                                                                                                                                                                      306 GlySerLeuGlnProProProProGlyPheLysGlnPheLeuCysLeuSerLeuProGly 325
                                                                                                                                                                                                                                                                                            326 SerTrpAspTyrArgArgAlaProProArgGlnAlaAsnPheCysIlePheSerArgAsp 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5286 ITTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATGGCATGAYCAT
                                                                                                                  5235 ITCAAGITIGACAATGAICAAGIAITACIC-----ITICITITITITITITITI
                                                                                                                                 5346 AGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCCCGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5466 GGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAGA 5513
                                                                                                                                                                                                                                                                                                                                          Sequence 5337, Application US/09764891
Fublication No. US20030077808A1
GENERAL INFORMATION:
TITLE REFERENCE: PC006
CURRENT APPLICATION NUMBER: US/09/764,891
CURRENT APPLICATION NUMBER: US/09/764,891
FLICE REFERENCE: 2001-01-17
FILE REFERENCE: SCORE 2001-01-17
SOFTWARE TELLICATION GATE: Emeroved - consult PALM or file wrapper: SOFTWARE: PatentIN Ver. 2.0
SOFTWARE: PatentIN Ver. 2.0
LENGTH: 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                or file wrapper
  361
64
5
24
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93
4
18
10
0
                           Conservative:
Mismatches:
Indels:
                                                                                      US-09-966-880A-9 (1-5514) x US-09-995-494-107 (1-361)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-966-880A-9 (1-5514) x US-09-764-891-5337 (1-93)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative:
Mismatches:
  Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps:
3.74e-25
345.50
71.88%
66.67%
3.58%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     309.00
76.25%
71.25%
3.20%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Homo sapiens US-09-764-891-5337
                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
US-09-764-891-5337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63
                                                   Query Match:
  ..
Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ..
9
 Pred.
                                                                                                                                                                                                                                                                                                  a
                                                                                                                  ò
                                                                                                                                           g
                                                                                                                                                                    ò
                                                                                                                                                                                    . 셤
                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
```

```
APPLICANT: Recipon, Herve
APPLICANT: Chen, Sel-Yu
APPLICANT: Chen, Sel-Yu
APPLICANT: Sun, Yongming
APPLICANT: Liu, Chenghua
TITLE OF INVENTION: Compositions and Methods Relating to Lung Specific Genes and P
FILE REPERENCE: DEX-0791
CURRENT APPLICATION NUMBER: US/09/989,920
CURRENT FILING DATE: 2001-11-21
PRIOR FILING DATE: 2000-11-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3856 TITITAATITITCTTCTTATTTTTGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAG 3797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3736 GCCTCAGCCCCCTA-GTAGCTGGGACCACAGGCACATGCCACCATGCCGGCTA---- 3684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3683 ATTITIGITATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGC 3624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60 ValPheLeuValGluThrGlyPheHisHalSValGlyGlnAlaGlyLeuGluPheLeuThr 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Sun, Yongming
APPLICANT: Recipon, Herve
APPLICANT: Salceda, Susana
APPLICANT: Liu, Chenghua
APPLICANT: Turner, Leah
APPLICANT: Turner, Leah
APPLICANT: Turner, Leah
APPLICANT: Turner, Leah
APPLICANT: Turner, Genes and Methods Relating to Breast Specific
TITLE OF INVENTION: Genes and Proteins
FILE REFERENCE: DEX-0249
CURRENT APPLICATION NUMBER: US/10/082,830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3796 TGCAGTGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                107
64
8
27
4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-966-880A-9 (1-5514) x US-09-989-920-233 (1-107)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
                                  ; Sequence 233, Application US/09989920
; Patent No. US20020172957A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 207, Application US/10082830; Publication No. US20030077604A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 284
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                           8.49e-20
289.50
70.59%
62.75%
                                                                                      APPLICANT: Macina, Roberto
APPLICANT: Recipon, Herve
                                                                                                                                                                                                                                                                                                                                                                                     CRGANISM: Homo sapien US-09-989-920-233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3563 ACCTGG 3558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100 AlaTrp 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
                                                                       GENERAL INFORMATION:
RESULT 3
US-09-989-920-233
                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-082-830-207
                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 233
LENGTH: 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ô
```

```
3766 CITGACCTCCTGGGCTCCAAAGATTCTCCTGCCTCAGCCCC-CTAGTAGCTGGGACCACA 3708
                                                                                                         3826 CAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAGTGGCGCAAGCACTGCTCAGTGCAGC 3767
                                                                                                                                                                                                                           3707 GGCACATGCCACCATGCCCGGCTAATTTTTGTT-----ATAGAAACAGGGTTTTGCCAT 3654
                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                       APPLICANT: Foy, Teresa
APPLICANT: Fanger, Gary R.
APPLICANT: Wantanabe, Yoshihiro
APPLICANT: Meagher, Madeleine Joy
APPLICANT: Meagher, Madeleine Joy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF PROSTATE CANCER
FILE REFERENCE: 210121.427C27
                                                                                                                                                                                                                                                                                                                                                 3593 AGTGCTGGGATTACAGGCGTGAGCCACCACACCTGGCTGTCT 3552
                                                                                                                                                                                                                                                                                                                                                                             94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        132
60
10
                                                                                                                                                                                                                                                                                                                                                                133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
      Conservative:
                                                                             US-09-966-880A-9 (1-5514) x US-10-001-835-135 (1-94)
                    Mismatches:
                                   Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 573 LENGTH: 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/10/012,896
CURRENT FILING DATE: 2001-12-10
NUMBER OF SEQ ID NOS: 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 573, Application US/10012896
Publication No. US20020183251A1
GENERAL INPORMATION:
APPLICANT: XU, Jiangchun
APPLICANT: Dillon, Davin C.
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Harlocker, Susan L.
APPLICANT: Harlocker, Susan L.
APPLICANT: Kalos, Michael D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hural, John
McNeill, Patricia D.
Houghton, Raymond L.
Vinals de Bassols, Carlota
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Henderson, Robert A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Skeiky, Yasir A.W.
Hepler, William T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Day, Craig H.
Vedvick, Thomas S.
Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2.05e-19
286.00
65.42%
   73.408
67.028
2.978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Retter, Marc W.
Stolk, John A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Li, Samuel X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang, Aijun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
   Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ното
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-012-896-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-012-896-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                             81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                              Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                         δ
                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                    δ
                                                                                                                                                                                               6
                                                                                                                                                                                                                           δλ
                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Salceda, Susana
APPLICANT: Salceda, Susana
APPLICANT: Macina, Roberto
APPLICANT: Recipon, Herve
APPLICANT: Recipon, Herve
APPLICANT: Liu, Chenghua
TITLE OF INVENTION: Compositions and Methods Relating to Ovary Specific Genes and Prc
FILE REFERENCE: DEX-0277
CURRENT APPLICATION NUMBER: US/10/001,835
CURRENT FILING DATE: 2000-11-20
PRIOR FILING DATE: 2000-11-20
PRIOR FILING DATE: 2000-11-20
SOFTWARE: PatentIn version 3.1
SEQ ID NOS: 228
SOFTWARE: PatentIn version 3.1
LENGH: 000
                                                                                                                                                                                                                                                                                                                                                                             3776
                                                                                                                                                                                                                                                                                                                  3775 CAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTCAGCCCCCTA-GTAGCT 3717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3716 GGGACCACAGGCACATGCCACCATGCCCGGCTAATTTTTGTT-----ATAGAAACAGGG 3663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30
                                                                                                                                                                                                                                                                                                                                                                                            3832 TTGAGGCAAGGTCTGGTC---CTGTCACCCAGGCTGGAGTGCAGTGGCGAAGCACTGCT
                                                                                                                                                                              126
70
8
22
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3602 GCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCAC 3567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                     US-09-966-880A-9 (1-5514) x US-10-082-830-207 (1-126)
                                                                                                                                                                                                                             Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
                                                                                                                                                                                                                                           Indels:
CURRENT FILING DATE: 2001-10-29
PRIOR APPLICATION WUMBER: 60/243,802
PRIOR FILING DATE: 2000-10-27
NUMBER OF SEQ ID NOS: 282
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 207
LENGTH: 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Sequence 135, Application US/10001835; Patent No. US20020160387A1; GENERAL INFORMATION:
                                                                                                                                                                           1.6e-19
287.00
69.64%
62.50%
2.98%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.8e-19
286.00
                                                                                                      ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-082-830-207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Homo sapien
                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-001-835-135
                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-001-835-135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                              Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
```

Percent Similarity: 65.42% Conservative: 10 Best Local Similarity: 56.07% Mismatches: 33 Query Match: 1000	Gaps: Gaps: 14) x US-09-895-793-573 (1-132)	3851 AATTTTC	Db 27 AsnPhePhePheLeuArgGlnGluSerGlyProValAlaGlnAlaGlnValGln 44  Qy 3791 TGGGGAAGCACTGAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732	Db 45 TrpHisAspLeuSerSerTeuGlnProLeubroHisArgPheLysGlnPheSerCysLeu 64  Qy 3731 AGCCC-CCTAGTAGTGGGACCACAGCCACATGCCCAGCCAATTTTTGT 3676	65 SerLeuProHisSerTriAsphisArgTyrAlaProProHisLeuAlaAsnPheCysSer	<pre>Qy 36/5TATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGTTTGAACTCCAGGGCTCAAG 3619                                      </pre>	CGATCCACCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCACACACTG	3558	Db 125 AlaCysHisIleLeuLeuAsn 131	RESULT 8 US-09-895-814-573	; Sequence 573, Application US/09895814 ; Publication No. US20020193296A1	GENERAL INFORMATION: ; APPLICANT: Xu, Jiangchun ; APPLICANT: Dillon. Davin C		Jiang, Yuqiu Kalos, Michael D.		APPLICANT: APPLICANT:	APPLICANT: APPLICANT: APPLICANT:	APPLICANT: APPLICANT:	APPLICANT: APPLICANT:	APPLICANT: McNeill, Patricia D. APPLICANT: Houghton, Raymond L.	APPLICANT: Foy, Teresa APPLICANT: Foy, Teresa APPLICANT: Fanger, Garw R.	TITLE OF INVENTI	FILE CURRE	Q ID NOS: stSEQ for	m 03	; ORGANISM: Homo sapiens US-09-895-814-573	Alignment Scores: 2.05e-19 Length: 132
Best Local Similarity: 56.07% Mismatches: 33 Query Match: 2.97% Indels: 5 DB: 2			OY 3791 TGGCGCAAGCACTGGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732		3675		105	Qy     3558 GCTGTCTTTAAAT 3538       b     125 AleCystisIleLeuLeuban 333	NOTE 7	US-09-895-793-573 Sequence 573, Application US/08895793 Dublication No Reconstruction US/08895793	; GENERALINO. USZUUZUI92/63A1 ; GENERALINORMATION: ; APPLICANT: Xu, Jianochin	Dillon, Dav	: Harlocker, Susan I : Jiang, Yuqiu	; APPLICANT: Kalos, Michael D. ; APPLICANT: Retter, Marc W. ; APPLICANT: APPL	Day, Craig H.	, AFFLICANI: VEUVICK, Thomas S. ; APPLICANT: Carter, Darrick ; APPLICANT: Li, Sammel X	Wang, Aijur Skeiky, Yas		; APPLICANT: Hural, John ; APPLICANT: Moweill, Patricia D. ; APPLICANT: Moweill, Patricia D.	; APPLICANT: Vinals de Bassols, Carlota ; APPLICANT: Foy, Teresa	; APPLICANT: Fanger, Gary R. ; TILLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND	; TILLE OF INVENTION: DIAGNOSIS OF PROSTATE CANCER; FILE REFERENCE: 21011.5346.22	CORRENT FILING DATE: 2001-06-29 ; NUMBER OF SEQ ID NOS: 982	; SOFTWARE: FastSEQ for Windows Version 3.0 ; SEQ ID NO 573 ; LENGTH: 132	; TYPE: PRT PRANIZM: Homo sapiens US-00-895-791-573	Alignment Scores:	Pred. No.: 2.05e-19 Length: 132 Score: 286.00 Matches: 60

```
3731 AGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCACATGCCCGGCTAATTTTGT--- 3676
                                                                                                                                                                                                                                                     3675 ---TATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                             3851 AATTITICTICTIATITITIGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAG 3792
                                                                                                                          3791 TGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732
                                                                                                                                                                                                                                                                     85 PheSerArgAspGlyValSerLeuCysCysSerGlyTrpSerLysThrProGlyLeuGln 104
                                                                                                                                                                                                                     84
                                                                            APPLICANT: MCMEIL, Particia D. APPLICANT: Houghton, Raymond L. TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND TITLE OF INVENTION: DIAGNOSIT OF PROSTATE CANCER FILE REFERENCE: 210121.427C24
CURRENT APPLICATION NUMBER: US/09/780,669
CURRENT APPLICATION NUMBER: US/09/780,669
NUMBER OF SEQ ID NOS: 943
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           132
60
10
33
5
                               US-09-966-880A-9 (1-5514) x US-09-759-143-573 (1-132)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                 3558 GCTGTCTGTTTCACTTTAAAT 3538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 573, Application US/09780669; Patent No. US20020051977A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                 125 AlaCysHisIleLeuLeuAsn 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Xu, Jiangchun
Dillon, Davin C.
Mitcham, Jennifer L.
Harlocker, Susan L.
Jiang, Yuqui
Henderson, Robert A.
Kalos, Michael D.
Fanger, Gary R.
Retter, Marc W.
Stolk, John A.
Day, Craig H.
Vedvick, Thomas S.
Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Skeiky, Yasir A.W.
Hepler, William
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2.05e-19
286.00
65.42%
56.07%
2.97%
 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wang, Aijun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Homo sapiens
US-09-780-669-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Samuel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hural,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-780-669-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No.:
                                                             δ
                                                                                           Q
                                                                                                                          ŏ
                                                                                                                                                          g
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                 3731 AGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCCGGCTAATTTTGT--- 3676
                                                                                                                                                                                                                                                                                                                                                                              3618 CGATCCACCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCACCACCACGTG 3559
                                                                                                                        3851 AATTITICITCTICTITITITIGAGGCAAGGICTGGTCCTGTCACCCAGGCTGGAGTGCAG 3792
                                                                                                                                                                                                                                                                                                                3675 ---TATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                                                                                                      3791 TGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732
                                                                                                                                                                                                                                                                                                                                   64
                                                                                                                                                                                                                                                                     APPLICANT: ALL JIANGONING.
APPLICANT: Dillon, Davin C.
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Harlocker, Susan L.
APPLICANT: Henderson, Robert A.
APPLICANT: Henderson, Robert A.
APPLICANT: Retter, Marc W.
APPLICANT: Retter, Marc W.
APPLICANT: Retter, Marc W.
APPLICANT: Retter, Dany R.
APPLICANT: Carter, Dany R.
APPLICANT: Carter, Darick
APPLICANT: Carter, Darick
APPLICANT: Skeiky, Yasir A.W.
APPLICANT: Hepler, Milliam
APPLICANT: Mang, Aljun
APPLICANT: Hepler, William
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF PROSTATE CANCER
FILE REFERENCE: 210121.427C23
CURRENT APPLICATION NUMBER: US/09/759,143
CURRENT APPLICATION NUMBER: US/09/759,143
NUMBER OF SEQ ID NOS: 934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          132
60
10
33
5
60
110
2
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches:
Conservative:
Mismatches:
Indels:
                                                                                       US-09-966-880A-9 (1-5514) x US-09-895-814-573 (1-132)
             Conservative:
Mismatches:
Matches:
                                              Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                              3558 GCTGTCTGTTTCACTTTAAAT 3538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : Sequence 573, Application US/09759143
: Patent No. US20020022248A1
: GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              125 AlaCysHisIleLeuLeuAsn 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Xu, Jiangchun
Dillon, Davin C.
Mitcham, Jennifer L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.05e-19
286.00
65.42%
56.07%
2.97%
           65.42%
56.07%
2.97%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens
         Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TYPE: PRT
; ORGANISM: HOMO:
US-09-759-143-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-759-143-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 9
                                                                                                                        ò
                                                                                                                                                      g
                                                                                                                                                                                      ò
                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                  ò
```

```
3791 IGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3731 AGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCACCATGCCCGGCTAATTTTGT--- 3676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3675 ---TATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3851 AATITITCTICTTATTITITGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Wantanabe, Yoshihiro
APPLICANT: Meagher, Madeleine Joy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF PROSTATE CANCER
FILE REFERENCE: 210121.427C27
CURRENT APPLICATION NUMBER: US/10/012,896
CURRENT FILING DATE: 2001-12-10
NUMBER OF SEQ ID NOS: 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             135
60
10
33
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-966-880A-9 (1-5514) x US-10-012-896-884 (1-135)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                      Houghton, Raymond L.
Vinals de Bassols, Carlota
                                         3558 GCTGTCTGTTTCACTTTAAAT 3538
                                                                                                                              Sequence 884, Application US/10012896
Publication No. US20020183251A1
GENERAL INFORMATION:
                                                                     125 AlaCysHisIleLeuLeuAsn 131
                                                                                                                                                                  APPLICANT: Xu, Jiangchun
APPLICANT: Dillon, Davin C.
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Harlocker, Susan L.
APPLICANT: Jiang, Yuqiu
APPLICANT: Kalos, Michael D.
APPLICANT: Stolk, John A.
                                                                                                                                                                                                                                                                                                                                                             Skeiky, Ýasír A.W.
Hepler, William T.
Henderson, Robert A.
Hural, John
                                                                                                                                                                                                                                                                                                                                                                                                                       McNeill, Patricia D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.07e-19
286.00
65.42%
56.07%
2.97%
                                                                                                                                                                                                                                                                                      Day, Craig H.
Vedvick, Thomas S
Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fanger, Gary R.
                                                                                                                                                                                                                                                                                                                                     Li, Samuel X.
                                                                                                                                                                                                                                                                                                                                                    Aijun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Foy, Teresa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                 Wang,
                                                                                                    RESULT 12
US-10-012-896-884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-012-896-884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 884
                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score:
                                         ò
                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                               3851 AATTITCTTCTTATTTTTTGAGGCAAGGTCTGGTCTGTCACCCAGGCTGGAGTGCAG 3792
                                                                                        3791 TGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGGTCCAAAGATTCTCCTGCCTC 3732
                                                                                                                                              3731 AGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCCACCATGCCCGGGTAATTTTTGT--- 3676
                                                                                                                                                                                                       3675 ---TATAGAAACAGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                                                                                                                                                                             3851 AATTITICITCITATITITIGAGGCAAGGICIGGICCTGICACCCAGGCIGGAGIGCAG 3792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3791 TGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732
                                                                                                                                                                                                                             85 PheSerArgAspGlyValSerLeuCysCysSerGlyTrpSerLysThrProGlyLeuGln 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3731 AGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCACCATGCCCGGCTAATTTTTGT--- 3676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3675 ---TATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84
                                                                                                                                                                 Sequence 573, Application US/09822827
Betent No. US20020081680A1
GENERAL INFORMATION:
APPLICANT: Xu, Jiangchun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
FITLE OF INVENTION: DIAGNOSIS OF PROSTATE CANCER
FILE REFERENCE: 210121.53421
CURRENT APPLICATION UNUBER: US/09/822,827
CURRENT FILING DATE: 2001-03-28
NUMBER OF SEQ ID NOS: 982
SOFTWARE: FastEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           132
60
10
33
5
   US-09-966-880A-9 (1-5514) x US-09-780-669-573 (1-132)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-966-880A-9 (1-5514) x US-09-822-827-573 (1-132)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                                                                       3558 GCTGTCTGTTTCACTTTAAAT 3538
                                                                                                                                                                                                                                                                                                                                                    125 AlaCysHisIleLeuLeuAsn 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2.05e-19
286.00
65.42%
56.07%
2.97%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Homo sapiens
US-09-822-827-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                             US-09-822-827-573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No.:
                                                                                      ò
                                                                                                                 a
                                                                                                                                              ò
                                                                                                                                                                        g
                                                                                                                                                                                                     õ
                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
CGAICCACCACCACACCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCACCACCACGTG 3559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3851 AATTITICITCITCITATITITAAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAG 3792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3791 TGGGGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     THE THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  135
60
10
33
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-966-880A-9 (1-5514) x US-09-895-814-884 (1-135)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Fanger, Gary R.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR 1
TITLE OF INVENTION: DAGNOSIS OF PROSTATE CANCER
FILE REFERENCE: 210121.427C26
CURRENT APPLICATION NUMBER: US/09/895,814
CURRENT FILING DATE: 2001-06-29
NUMBER OF SEQ ID NOS: 990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hural, John
McNeill, Patricia D.
Houghton, Raymond L.
Vinals de Bassols, Carlota
Foy, Teresa
                                                                                                          3558 GCTGTCTGTTTCACTTTAAAT 3538
                                                                                                                                                                                                   Sequence 884, Application US/09895814
Publication No. US20020193296A1
GENERAL INFORMATION:
                                                                                                                                       125 AlaCysHisIleLeuLeuAsn 131
                                                                                                                                                                                                                                                                                              Harlocker, Susan L.
Jiang, Yuqiu
Kalos, Michael D.
Retter, Marc W.
Stolk, John A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Skeiky, Yasir A.W.
Hepler, William T.
Henderson, Robert A.
                                                                                                                                                                                                                                               APPLICANT: Xu, Jiangchun
APPLICANT: Dillon, Davin C.
APPLICANT: Mitcham, Jennifer L.
                                                                                                                                                                                                                                                                                                                                                                            Day, Craig H.
Vedvick, Thomas S.
Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 286.00
65.42%
56.07%
2.97%
                                                                                                                                                                                                                                                                                                                                                                                                                            Li, Samuel X.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Wang, Aijun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                        US-09-895-814-884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: HOR
US-09-895-814-884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 135
                                              3618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65
                                                                                                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No.:
                q
                                                                            q
                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                              ŏ
                                                                                                          ò
                           3791 TGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3731 AGCCC-CCTAGTAGCTGGGACCACAGGCACATGCCACCATGCCCGGCTAATTTTGT--- 3676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3675 ---TATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3851 AATTTTCTTCTTATTTTTGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAG 3792
85 PheSerArgAspGlyValSerLeuCysCysSerGlyTrpSerLysThrProGlyLeuGln 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Higher, Milliam 1.
APPLICANT: Hural, John
APPLICANT: Hural, John
APPLICANT: Houghton, Raymond L.
APPLICANT: Houghton, Raymond L.
APPLICANT: Vinals de Bassols, Carlota
APPLICANT: Foy, Teresa
APPLICANT: Foy, Teresa
APPLICANT: Foy, Teresa
APPLICANT: POY, Teresa
TITLE OF INVENTION: DIAGNOSITIONS AND METHODS FOR THE THERAPY AND FILLE REFERENCE: 210121.534C2
CURRENT APPLICATION NUMBER: US/09/895,793
CURRENT FILING DATE: 2001-06-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  135
60
10
33
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-966-880A-9 (1-5514) x US-09-895-793-884 (1-135)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 982
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                         3558 GCTGTCTGTTTCACTTTAAAT 3538
                                                                                                                                                                                   Sequence 884, Application US/09895793 Publication No. US20020192763A1 GENERAL INFORMATION:
                                                                                                                       125 AlaCysHisIleLeuLeuAsn 131
                                                                                                                                                                                                                                 APPLICANT: Xu, Jiangchun
APPLICANT: Dillon, Davin C.
APPLICANT: Mitcham, Jennifer L.
                                                                                                                                                                                                                                                                              Harlocker, Susan L.
Jiang, Yuqiu
Kalos, Michael D.
                                                                                                                                                                                                                                                                                                                                                       Day, Craig H.
Vedvick, Thomas S.
Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                      Wang, Aijun
Skeiky, Yasir A.W.
Hepler, William T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2.07e-19
286.00
65.42%
56.07%
2.97%
                                                                                                                                                                                                                                                                                                                           Retter, Marc W.
Stolk, John A.
                                                                                                                                                                                                                                                                                                                                                                                                            Li, Samuel X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens
US-09-895-793-884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
                                                                                                                                                                        US-09-895-793-884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 884
LENGTH: 135
                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match:
                                                                                                                                                      RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred
                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           අ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                              ò
                                                                                         ò
```

44

```
ò
---TATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
                                                                                                           3618 CGAICCACCCACCICAGCCICCCAGAGIGCIGGGAITACAGGCGIGAGCCACCACACCIG 3559
                                3851 AATTTTCTTCTTATTTTTGAGGCAAGGTCTGGTCCTGTCACCCAGGCTGGAGTGCAG 3792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3791 TGGCGCAAGCACTGCTCAGTGCAGCCTTGACCTCCTGGGCTCCAAAGATTCTCCTGCCTC 3732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3675 ---TATAGAAACAGGGTTTTGCCATGTTGCTCAGGCTGGTCTTGAACTCCAGGGCTCAAG 3619
85 PheSerArgaspGlyValSerLeuCysCysSerGlyTrpSerLysThrProGlyLeuGln 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Mitcham, Jourin C.
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Harlocker, Susan L.
APPLICANT: Harlocker, Susan L.
APPLICANT: Harlocker, Susan L.
APPLICANT: Fanger, Robert A.
APPLICANT: Fanger, Gary R.
APPLICANT: Fanger, Gary R.
APPLICANT: Penger, Gary R.
APPLICANT: Day, Craig H.
APPLICANT: Day, Craig H.
APPLICANT: Carter, Darrick
APPLICANT: Carter, Darrick
APPLICANT: Li, Samuel
APPLICANT: Wang, Aljun
APPLICANT: Skelky, Yasir A.W.
APPLICANT: Wang, Aljun
APPLICANT: Skelky, Vasir A.W.
APPLICANT: Skelky, Vasir A.W.
APPLICANT: Skelky, Vasir A.W.
APPLICANT: Skelky, Vasir A.W.
APPLICANT: Wang, Aljun
APPLICANT: Skelky, Vasir A.W.
APPLICANT: Skelky, Vasir A.W.
APPLICANT: Skelky, Vasir A.W.
APPLICANT: Wang, Stelky, Vasir A.W.
APPLICANT: Skelky, Vasir A.W.
APPLICANTION: Skelky, Vasir A.W.
APPLICANT: Skelky
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 135
60
10
33
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-966-880A-9 (1-5514) x US-09-759-143-884 (1-135)
                                                                                                                                                                                                                          3558 GCTGTCTGTTTCACTTTAAAT 3538
                                                                                                                                                                                                                                                                                                                                                                                               Sequence 884, Application US/09759143
Patent No. US20020022248A1
                                                                                                                                                                                                                                                                                   125 AlaCysHisIleLeuLeuAsn 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xu, Jiangchun
Dillon, Davin C.
Mitcham, Jennifer L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2.07e-19
286.00
65.42%
56.07%
2.97%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: Homo sapiens
US-09-759-143-884
                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                              US-09-759-143-884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 884
LENGTH: 135
  3675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                                  d
                                                                                                           ò
                                                                                                                                                           g
                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
```

GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nu	OM nucleic - nucleic search, using sw model
Run on:	<pre>June 19, 2003, 11:14:11 ; Search time 13758 Seconds (without alignments) 11663.968 Million cell updates/sec</pre>
Title: Perfect score: Sequence:	US-09-966-880A-9 5514 1 acagacgaatacatggtccatcaaactcctgacctcagag 5514
Scoring table:	OLIGO_NUC Gapop 60.0 , Gapext 60.0
Searched:	2054640 seqs, 14551402878 residues
Word size :	0
Total number of	Total number of hits satisfying chosen parameters: 4109280
Minimum DB seq Maximum DB seq	Minimum DB seq length: 0 Maximum DB seq length: 2000000000
Post-processing	Post-processing: Listing first 45 summaries
Database :	GenEmbl:* 1: gb_ba:*

em\_htg\_hum:\*
em\_htg\_inv:\*
em\_htg\_other:\*
em\_htg\_other:\* em\_htg\_pln:\* em\_htg\_rod:\* em\_htg\_mam:\* em\_htgo\_hum:\* em\_htgo\_mus:\* em\_htg\_vrt:\* 9b\_htg:\*
9b\_on:\*
9b\_on:\*
9b\_pox:\*
9b\_ph:\*
9b\_pr:\*
9b\_pr:\*
9b\_ro:\*
9b\_ro:\*
9b\_vr:\*
9b\_vr:\*
em\_tun:\*
em\_tun:\* em\_sts:\* em\_un:\* em\_in:\* em\_mu:\* em\_om:\* em\_or:\* em\_ov:\* em\_pat:\* em\_ph:\* em\_pl:\* em\_ro:\* em\_vi:\*  Pred. No. is the number of results predicted by chance to have a

em\_htgo\_other:\*

AP001083 Home Sapi AC024709 Home Sapi AL139113 Human DNA AC048834 Home Sapi AC027317 Home Sapi AC027416 Home Sapi AC027416 Home Sapi AC027416 Home Sapi AC037416 Home Sapi AC09374 Home Sapi AC09318 Home Sapi AC04444 Home Sapi AC04444 Home Sapi AC042459 Home Sapi AC03459 Home Sapi AC05457 Home Sapi AC05475 Home Sapi AC03077 Home Sapi AC05536 Home Sapi Homo sapi Homo sapi Homo sapi Homo sapi Human DNA Homo sapi Homo sapi Homo sapi Homo sapi Homo sapi Homo sapi Human DNA Human DNA score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution. Description AC092184 F BC006296 F AB040431 F AL353650 F AC004971 F AL356418 F AC022651 AC445232 AC016394 AC008686 AL161652 AL391241 AB040430 SUMMARIES HSJ324017 AC021072\_3 AC104084 AL445430 AC023459 AC023459 AC03271 AC013527 AC013527 AC05277 AC06888 AC06888 AC06888 AC06888 AC05278 AC05278 AC05287 AC05287 AC01287 AC016394 AC016394 AC016394 AC016394 AC016394 AC016394 AC016394 AB040430 AC092184 BC006296 AB040431 AL353650 AL356418 AL356418 AC024709 AL3534709 AL333113 AC133113 AC022717 AC027515 AC027416 AC009974 DB 131928 135693 141655 123253 168524 29359 168079 172376 193280 215719 173943 195661 152129 206854 3187 81364 109138 127862 146574 154162 157807 164168 164179 193717 90543 148103 149726  $\frac{11204}{71132}$ 51012 Length 214696 44890 150192 Query Match Score 8 11 12 õ υυ υυυ υu υu υo υo

ALIGNMENTS

Homo sapiens AID gene for activation-induced cytidine deaminase, complete cds.

AB040430
AB040430.1 GI:9988407
AID; activation-induced cytidine deaminase.

Homo sapiens DNA. 1 (sites)
Muto,T., Muramatsu,M., Taniwaki,M., Kinoshita,K. and Honjo,T.
Isolation, tissue distribution, and chromosomal localization of the Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. LOCUS ACCESSION VERSION KEYWORDS SOURCE ORGANISM REFERENCE AUTHORS TITLE RESULT 1 AB040430

CACHE		
151   TGTTCTTCAGAAAATTTCTTGAGGTCAGACAATGTCAAATGTCTCCTCCGGTTTAC    152   TGTTCTTCAGAAAATTTTCTTGAGGTCAGACAATGTCCAAATGTCTCCTCCTCGTTTAC    162   AGATTTTGAAAACAAGTCTCAGGCTCTTGGACAATGTCTCCTCCTTTTAC    162   AGATTTTGAAAACAAGTCTCAGGCTCTTGTAAGGTCCTTTGGAAATAC    163   AGATTTTGAAAACAAGTCTGAGGTCCTTGTGAAATTCCAGGAAATAC    164   165   165   165   165   165   165   165     165   TCAAGTAAAATGGAAAGCTAAAATCAGCAGTTGAAATTCAGGAAATACCAGTTTTAAAGTACACAGTTAAAGTAAAATGAAAATGAAAATCAGAAATACAATTAAACACAGGAAAAACAAAGAAAAGAAAATGAAAATAAAATTAAACACAGGAAAAATGAAAATAATAATTAAT	AAATC 21 TTTTC 28 TTTTC 28 TTTTC 28 TTTTC 22 TTTTC 22 TTTTC 28 TTTTC 29 TTTTC 29	TCTGCCTTTCTCACTACACCCAGGAGGGRAGTTATATAGAGGGGATTTATTGG 2990  CTCTGCCTTTCTCACTACACCCCAGGAGGGGAAGTTAATAGAGGGGATTTATTGG 2990  CTCTGCCTTTCTCACTACACACCCCAGGAGGGGAAGTTAATAGG 2400  CTCTGCCTTTCTCACTAACTGTTTAACACTGGGCCTCAAAGAGGGATTTCTTTC

Db   4801 CTCAGCCTCCGGGTAGATGGGATTACAGGCGCCCACCACACTCGGCTAATGTTTGT 4860     Qy	AL CAE	TITLE Direct Submission JOURNAL Submitted (25-JUN-2001) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One
	4491 4651 4751 4731	Oy 5391 CTCAGCCTCCCGGGTAGATGCAGCGCCCACCACCACCACTGGCTAATGTTTGT 5450

S

```
1 ACAGACGAATACATGGTCCAAGCTAGGGCTATTGATTTGAAAATCATCAAGGTATAGATG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 71132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   84.3%; Score 4649; D 99.7%; Pred. No. 0; Live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 y="L1MB5"
924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /rpt_family="Aluy"
complement(13980, 1410>
/rpt_famil(13980, 1410>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /rpt_family="LTR5"
2625. 12900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /rpt_family="LimB5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /rpt_family="Aluy"
complement(15813. .17136)
/rpt_family="LIPA8"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   complement(17272...17395)
/rpt_family="FLAM_C"
17426...17575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /rpt_family="Alusg"
complement(11227, 1917/rpt family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /rpt_family="MIR"
complement(7033. .7327.
                                                                                                                                                                                                                                                                                                                                  'rpt_family="FLAM_C"
275 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .8549)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'standard_name="87432"
                                                                                                                                                                                                                  /rpt_family="(TTTC)n"
                                                                                                                                                                                                                                                                                                                                                                                                 rpt_family="AT_rich" 305. .5563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rpt_family="AT_rich"
644. .5733
                                                                'rpt_family="AT_rich"
591. 1807
                                                                                                            standard_name="6612"
                                                                                                                                                 'standard_name="8198"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family="(CAA)n"
complement(6711. .68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'rpt_family-"FLAM_A"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -"LTR47A"
                                                                                                                                                                                                                                         *v9/. .4249
/rpt_family="Alusg"
1360. .4654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family="Alusx"
5337
903. 1190
/rpt_family="Alusq"
                                                                                                                                                                                        'rpt_family="AluSq"
1296. .3328
                                                                                                                                                                                                                                                                                                                                                                                                                                          rpt_family="AluJo"
564. .5599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /rpt_family="AluSq"
5020. .6336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'rpt_family="AluSx"
                                                                                                                                                                                                                                                                                                                 'rpt_family="AluY"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'rpt_family-"MSTD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'rpt_family="MSTD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /rpt_family="MIR" complement(8050.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8567. .8698
/rpt_family="MIR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /rpt_family="MIR"
19021. 19314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              complement (13547.
                                                                                                                                                                                                                                                                                                                                       complement 5140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .14924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .8047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rpt_family 4622. 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family
3567. 8698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 84.35
Best Local Similarity 99.77
Matches 5499; Conservative
        repeat_region
                                                 repeat_region
                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLONE LENGTH: This sequence does not necessarily represent the entire insert of this clone. Overlapping regions of clones are only sequenced and submitted once, so the sequence for the remainder of the insert may be found in the record for the adjacent clones. Overlapping clones are noted at the beginning and end of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCING READ COVERAGE:Sequencing is completed to a minimum standard of double strand coverage with a minimum of 2 clones and 2 reads with no ambiguities or 2 chemistries with a minimum of 2 clones and 3 reads with no ambiguities. If the sequence quality for a region does not meet this standard, it will be indicated in the annotation as Low Coverage.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QUALITY OF INDIVIDUAL BASES: This sequence meets stringent quality standards - estimated error rate less than 1 per 10,000 bases. Reports of lowest quality individual bases and measures of base quality are listed below. Description of the metrics can be found at URL: http://gc.bcm.tmc.edu:8088/quality.info/genbank.annotation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Incal mapping efforts.

Repeats are identified using RepeatMasker (A. Smit and P. Green, unpublished.) for Human and Mouse sequences.

Genes and Region of sequence similarity are identified by BLAST (Nuc. Acids Res. 25:3389-3402) similarity (expect < 1e-34) to the EST and cDNA sequences. Genes demonstrate at least two exons flanked by consensus splice sites that maintained sequence continuity across the splice junctions. Sequences that are not identical matches are annotated as similar.
                                                          Direct Submission
Submitted (18-MAY-2002) Human Genome Sequencing Center, Department
of Molecular and Human Genetics, Baylor College of Medicine, One
Baylor Plaza, Houston, TX 77030, USA
4 (bases 1 to 71132)
                                                                                                                                                                                                         Submitted (25-MAY-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA (bases 1 to 71132)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STSs are identified using ePCR (Genome Res. 7:541-550) searches of a local database that includes entries from dbSTS, GDB, and
                                                                                                                                                                                                                                                                                                                                         Department
                                                                                                                                                                                                                                                                                                Direct Submission
Submitted (12-JUN-2002) Human Genome Sequencing Center, Departmen
of Molecular and Human Genetics, Baylor College of Medicine, One
Baylor Plaza, Houston, TX 77039, USA
On May 25, 2002 this sequence version replaced gi:20901754.
INFORMATION: http://www.hgsc.bcm.tmc.edu/ or email
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   function="clone overlap" 1448 of clone AC092490" 87. .408
    Baylor Plaza, Houston, TX 77030, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complement(1. .1448)
/note="overlaps bases 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      439. .560
/standard_name="92005"
774. .881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard_name="57233"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
1. .71132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="RP11-438L7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                774. .881
/rpt_family="MIR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /chromosome="12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ANNOTATION OF FEATURES:
                         (bases 1 to 71132)
                                                                                                                                                                                            Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Features listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QUALSTAT-REPORT
                                                                                                                                                                                                                                                                            5 (bases 1
Worley, K.C.
                                                                                                                                                                  Worley, K.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                            REFERENCE
AUTHORS
TITLE
                     REFERENCE
AUTHORS
                                                              TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
```

ï

3301 CAGTCTTGAACTCCTGGGCTCAAGCAATCCTCCCTTGGCCTCCCAAAGTCTTGGGAT 3360	3481 TTTGCTGCTAAAGTTTAAAGTGCTTTCCAATAAGCTTCATGTACGTGAGGGGAGACATT 3540	3601 GCTGAGGTGGGTGGATCGCTTGAGCCCTGAGACCTGAGCAACATGGCAA 3660	3721 ACTAGGGGGCTGAGGCAGAGAATCTTTGGAGCCCAGGAGGTCAAGGCTGCACTGAGCAG 3780	41 GAAGAAAATTAAAAATAAATGGAAACAACTACAAAGAGCTGTTGTCCTAGATGAGCTAC 3900 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	01 TTAGTTAGGCTGATATTTTGGTATTTAACTTTTAAAGTCAGGGTCTGTCACCTGCACTGC 396	3961 ATTATAAATATCAATCCAATGTATATCCACAAGACTGTGTAGGTAG	NOTACCTITATION AND COCCAMBANTAN AND COMPANY AND CONTRACTOR AND CON	1 AAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAAATGAAAGAGTCAGACATGAAGG 420 111111111111111111111111111111111111	01 AGGAGATAATGTATGCCATACGAAATTCTAGAAAATGAAAGTAACTTATAGTTACAGAAA 426 	61 GCAAATCAGGGCAGGCATAGAGGCTCACACCTGTAATCCCAGCACTTTGAGAGGCCACGT 432 	21 GGGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCTGGGCAACACAGTGAAACTCCAT 438 	4381 TCTCCACAAAAATGGGAAAAAAAAAAAAAAAAAAAAAAA
6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	da dy dy	da da	oy ob	S &	Oy Db	o a a	3 8 8 8	oy d	ζΟ ·	QJ QD	Qy Dp	Qy
Oy 2221 AACAAGTCTGAGCTATAGGTCCTTGTGAAGGGTCCATTGGAAATTACTTGTTCAAAGTAAA 2280	GCTCATTAGTGATGGCAAAATGACTTGGTCAGGATTATTTTAACCCGCTTGTTCTGGT 2460	CAGC 36 AAAT 25 IIII AAAT 36 AACA 26 IIIII	AAGTTAACTAGCAGCTCAGGATCACCCCCTAACCAGAGGAGGAAGTAACGATCACAGAGAACAACAGAACAACAGAACAACAGAACAACAGAACAAC	Db 36659 GAAACAGTGTAGGCTTATTGTGTGTAGAGTAGGACCCAAAAATCCACCCAAAGT 36718  Qy 2761 CCTTATCTATGCCACATCCTTCTATCTATCTTCCAGGACACTTTTCTTCTTATGA 2820	1 TAAGGCTCTCTCTCTCCACACACACACACACACACACACA	2881 CACAAACACACCCCCCCCAACCAAGGTGCATGTAAAAGATGTAGATTCTTGTCTTT 2940 	ATG     ATG	36959 TGCTTAATCTGTTTAACACTGGGCCTCAAAGAGAGAATTTCTTTC	ACTAATGKTGGTTGGTACTATGGTAATTACCATAAAATTAWTATCCTTTTAAAATAAG 3180	3181 CTAATTATTATTGGATCTTTTTAGTATTCATTTTTTTTTT	3241 AAAAGACAATCTCACCCTGTTACCCAGGCTGGAGTGCAGTGGAGCATCATAGCTTTCTG 3300	

ò g ò g õ a qq

ò

ò

qq

à qq ò qq à q ò g

```
1837 bp mRNA linear PRI 12-JUL-2001 activation-induced cytidine deaminase, clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: nisc_mgc@nhgri.nih.gov
Shevchenko,Y., Wetherby,K.D., Beckstrom-Sternberg,S.M.,
Benjamin,B., Blakesley,R.W., Bouffard,G.G., Brinkley,C., Brooks,S.,
Dietrich,N.L., Guan,X. Gupta,J., Ho,S.-L., Karlins,E., Legaspi,R.,
Lim,M., Maduro,Q.L., Masiello,C., Mastrian,S.D., McCloskey,J.C.,
McDowell,J., Pearson,R., Snyder,B., Stantripop,S., Thomas,P.J.,
Tiongson,E.E., Touchman,J.W., Tsurgeon,C., Vogt,J.L., Walker,M.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /translation="MOSLLMMRRKFLYOFKNVRWAKGRRETYLCYVVKRRDSATSFSL
DFGYLNKNGCHVELLFLRYSDWDLDDGRCYRVTWFTSWSPCYDCRHVADFLRGNP
NLSLRIFTARLYFCEDRKAEPEGLRRLHRAGVQIAIMTFKDYFYCWNTFVENHERTFK
AWEGLHENSVRLSRLLLPLYEVDDLRDAFFTLGL"

387 c 421 q 499 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1035 GAACCATCATTAATTGAAGTGAGATTTTTCTGGCCTGAGACTTGCAGGGAGGCAAGAAGA 1094
                                                                                                                                                                                                                                 Eukaryota, Metazoa, Chordata, Craniata, Vertebrata; Buteleostomi,
Mammalia; Butheria; Primates; Catarrhini, Hominidae; Homo.
1 (bases 1 to 1837)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Clone distribution: MGC clone distribution information can be foun through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov series: IRAL Plate: 17 Row: a Column: 1
This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 9988409.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                 Direct Submission
Submitted (09-APR-2001) National Institutes of Health, Mammalian
Gene Collection (MGC), Cancer Genomics Office, National Cancer
Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
               GAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAGAG 39468
                                                                                                                                                                                                                                                                                                                                                                            USH-MGC Project URL: http://mgc.ncl.nih.gov
Contact: MGC help desk
Email: cgapbs.r@mail.nih.gov
Tissue Procurement: Louis Staudt
CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: National Institutes of Health Intramural
Sequencing Center (NISC),
Gaithersburg, Maryland;
Web site: http://www.nisc.nih.gov/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product-"activation-induced cytidine deaminase"
/protein_id="Aahd06296.1"
/db_xref="GI:13623401"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /db_xrefe"taxon:9606"
/clone="MGC:12911 IMAGE:4054915"
/tissue_type="primary B-Cells from Tonsils"
/lab_host="DH10B-R"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1837;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                  Homo sapiens, activation-induced cytidine de
MGC:12911 IMAGE:4054915, mRNA, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 84; DB 9; Len
Pred. No. 7e-34;
); Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="LocusID:57379"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="Vector: pOTB7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.5%; Scc.
100.0%; Pre
0; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zhang, L.-H. and Green, E.D.
                                                                                                                                                                   BC006296.1 GI:13623400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .1837
                                                                                                                                                                                                     sapiens.
                                                                                                                                                                                                                                                                                  Strausberg, R.
                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                  BC006296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            530
                                                                                                                                                                                                   Ното
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84;
              39415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 84
                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                 TITLE
                                                               RESULT 3
BC006296
                                                                                                                                                  ACCESSION
                                                                                                                                                                VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                   REMARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDS
                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                          38394
                                                                                                                                     38454
                                                                                                                                                                                                                               38574
                                                                                                                                                                                                                                                                        39114
                                                                                                                                                                                                                                                               4680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AATICTCTGCACTTCTGCCCCGTACCATTAGGTGACAGCACTAGCTCCACAAATTGGATA 4740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  38994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    39054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         39414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5340
GACTGCAAAGAGGGAAGAAGCTCTGGTGGGGTGAGGTGGTGGTGATTCAGGTTCTGTATCCT
                                                                  GACTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAAATATTCGTAGAATTATGCATCTTA
                                                                                                                                                                                     AATGGGTGGAGTTTACTGTATGTAAATTATACCTCAATGTAAGAAAAAATAATGTGTAAG
                                                                                                                                                                                                        AAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTGAGCCCTTTACTTCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCACGCTGTACAGCTTGTTGCTGTCTGCAGCTGCAATGGGGACTCTTGATTTCTTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGAAACTIGGGTTACCAGAGTATTTCCACAAATGCTATTCAAATTAGTGCTTATGATATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4981 ACAACATAGCAAGATATTTAGATCATTTTGACTAGTTAAAAAAGCAGCAGGAGTACAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACACATGCAATCAGTATAATCCAAAATCATGTAAATATGTGCCTGTAGAAGACTAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5281 ITTTTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATGGCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AYCATAGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGATGGGGTTTCACCATGTTGGCCAGGTTGGTCTCAAACTCCTGACCTCAGAG 5514
                                                    4441
                                                                                                                    4501
                                                                                                                                                                                       4561
                                                                                                                                                                                                                                                      4621
                                                                                                                                                                                                                                                                                                                                                                                       4741
                                                                                                                                                                                                                                                                                                                                                                                                                                                      4801
                                                                                                                                                     38455
                                                                                                                                                                                                                       88515
                                                                                                                                                                                                                                                                                      38575
                                                                                                                                                                                                                                                                                                                                                     38635
                                                                                                                                                                                                                                                                                                                       4681
                                                                                                                                                                                                                                                                                                                                                                                                                       8692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         39175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          38875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          38935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          39055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            39115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              39235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             39295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93355
```

a ç

oy D

셤 ò

ò Q ò q ò g ò 合

ò

found

ö

Gaps

ö

PRI 19-SEP-2001

linear

```
Libert Submitted (1018-1001) Sanger Centre, Hinxton, Cambridgeshire, Cabonitted (1018-1001) Sanger Centre, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerquest@sanger.ac.uk

On May 17, 2001 this sequence version replaced gi:13567986.

During sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.

This sequence was finished as follows unless otherwise noted: all regions were either double stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality) as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em:, EMBL; Sw:, SWISSPROT; Tr:, TREMBL; WP:, WORNPEP; Information on the WORNPEP database can be found at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            http://www.sanger.ac.uk/MEP/Chrio
RP11-344N19 is from the library RPCI-11.2 constructed by the group
of pieter de Jong. For further details see
http://www.chori.org/bacpac/home.htm
VECTOR: pBACG3.6
IMPORTANT: This sequence is not the entire insert of clone
RP11-344N19 It may be shorter because we sequence overlapping
sections only once, except for a 100 base overlap.
The true left end of clone RP11-344N19 is at 1 in this sequence.
The true left end of clone RP11-735G18 is at 84679 in this
sequence. The true right end of clone RP11-126A21 is at 3263 in
this sequence.
                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 84778)
Griffiths,C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 10, constructed by the Sanger Centre Chromosome 10 Mapping Group. Further information can be found at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            102. .282
//note="L1PA7 repeat: matches 5960. .6141 of consensus"
1753. .2298
/note="L1PA14 repeat: matches 5601. .6149 of consensus"
                                                                                                                                Human DNA sequence from clone RP11-344N19 on chromosome 10. Contains STSs, GSSs and a CpG island, complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4733. .5068
/note="MER2 repeat: matches 8. .345 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4213. .4511
/note="AluSx repeat: matches 1. .300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4643. .4720
/note="MIR repeat: matches 168.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="match: GSS: Em:AQ542535"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"/db_xref="taxon:9606"
                                                                                                       84778 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone_lib="RPCI-11.2"
14. 616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone="RP11-344N19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /chromosome="10"
                                                                                                                                                                                                            AL353650.5 GI:14141281
HTG; CpG island.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .84778
                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                       AL353650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                   human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                   RESULT 5
AL353650/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                       LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product="activation-induced cytidine deaminase"
/protein_id="BAB12721.1"
/db_xref="G1:998410"
/translation="MDSLLMNRRKFLYQFKNVRWAKGRRETYLCYVVKRRDSATSFSL
/translation="MDSLLMNRRKFLYQFKNVRWAKGRRETYLCYVVKRRDSATSFSL
DEGYLRNKNGCHVELLFLRYISDWDLDPGRCYRVTWFTSWSPCYDCARHVADFLRGNP
NLSLRIFTARLYFCEDRKAEPEGLRRLHRAGVQIAINFKDYFYCWNFFVENHERTFK
AWEGHHENSYRLSCHRILLPLYEVDDLRDAFRTLGL"
548 c 625 g 776 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Muto,T., Muramatsu,M., Taniwaki,M., Kinoshita,K. and Honjo,T.
Isolation, tissue distribution, and chromosomal localization of the
human activation-induced cytidine deaminase (AID) gene
Genomics 68 (1), 85-88 (2000)
                                                                                                                                                                                                                                                                PRI 03-0CT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Muto, T., Muramatsu, M., Taniwaki, M., Kinoshita, K. and Honjo, T. Direct Submission
Submitted (18-MAR-2000) Tasuku Honjo, Kyoto University, Department of Medical Chemistry, Faculty of Medicine, Yoshida, Sakyo-ku, Kyoto, Kyoto, G66-8501, Japan (E-mail:honjo@mfour.med.kyoto-u.ac.jp, Tel:81-75-753-4371(ex.4371), Fax:81-75-753-4388)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1035 GAACCATCATTAATTGAAGTGAGATTTTTCTGGCCTGAGACTTGCAGGGAGGCAAGAAGA 1094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Revy, F., Muto, T., Levy, Y., Geissmann, F., Plebani, A., Sanal, O., Catalan, N., Forveille, M., Dufourcq-Lagelouse, R., Gennery, A., Tezcan, I., Ersoy, F., Kayserili, H., Ugazio, A.G., Brousse, N., Muramatsu, M., Notarangelo, L.D., Kinoshita, K., Honjo, T., Fischer, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and Durandy, A. Activation-induced cytidine deaminase (AID) deficiency causes the autosomal recessive form of the Hyper-IgM syndrome (HIGM2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                           69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                            Homo sapiens AID mRNA for activation-induced cytidine deaminase,
10 GAACCATCATTAATTGAAGTGAGATTTTTCTGGCCTGAGACTTGCAGGGAGGCAAGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
                                                                                                                                                                                                                                                                                                                                                                   ABO40431.1 GI:9988409
AID; activation-induced cytidine deaminase; Human AID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 2791;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 9; Leus
7. 6.9e-34;
0;
                                                                                                                                                                                                                                                                   mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.5%; Score 84; DB (100.0%; Pred. No. 6.9ctive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                2791 bp
                                                                            1095 CACTCTGGACACCACTATGGACAG 1118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1095 CACTCTGGACACCACTATGGACAG 1118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 CACTCTGGACACCACTATGGACAG 84
                                                                                                       70 CACTCTGGACACCACTATGGACAG 93
                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens cDNA to mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 2791)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'gene="AID"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="AID"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. .2791
                                                                                                                                                                                                                                                                                                               complete CDS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (sites)
                                                                                                                                                                                                                                                              AB040431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20460541
                                                                                                                                                                                                                                                                                                                                                AB040431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       842
                                                                                                                                                                                                          RESULT 4
AB040431
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                        g
                                                                            à
                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
```

.245 of consensus"

οį

```
note="L1PB2 repeat: matches 6036. .6155 of consensus" 1531. .21805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="LiN4 repeat: matches 2462. .2946 of consensus" 22400. .22500 /note="LiNC4 repeat: matches 7863. .7964 of consensus" 22631. .22863
                                                                                                                             /note="Min repeat: matches 16. .161 of consensus" 9051. .9181
/note="FLAM_C repeat: matches 1. .129 of consensus" 9183. .9233
/note="Min repeat: matches 154. .206 of consensus" 9381. .9442
            note="L2 repeat: matches 2552. .2710 of consensus"
002. .7298
                                                                                      8242. .8529 ---- Mulo repeat: matches 1. .286 of consensus" 8905. .9048
                                                                                                                                                                                                         .2654 of consensus'
                                    .297 of consensus"
                                                                                                                                                                                       9381. 9442
/note="Li2 repeat: matches 2593. .2654 of consensus 4439. .9568
/note="MIR repeat: matches 39. .171 of consensus 9760. .9934
/note="MIR repeat: matches 20. .205 of consensus" 10.1657. .10572
/note="match: GSS: Em:AQ038279"
                                /note="AluSx repeat: matches 1.
                                                           7685, 8099
/note="match: GSS: Em:AQ569094"
8242, 8529
                                         .....purement(7572, .7912)
/hote="match: GSS: Em:AQ079921"
7685, .8099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22256
repeat_region
                      repeat_region
                                                                                             repeat_region
                                                                                                                    repeat_region
                                                                                                                                           repeat_region
                                                                                                                                                                   repeat_region
                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                             misc_feature
                                                                     misc_feature
                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
```

```
/note="Alusx repeat: matches 1. .310 of consensus"
26273. .26658
26673. .26658
2665-..12647
70cte="Migger4(Zombi) repeat: matches 1. .178 of consensus"
26853. .28938
70cte="Tigger4(Zombi) repeat: matches 568. .2694 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ## 2028 . 3024/
## 2028 . 3024/
## 2028 . 30519
## 2028 . 30519
## 2028 . 30519
## 2028 . 30519
## 2028 . 30519
## 2028 . 30519
## 2028 . 30124
## 2028 . 30124
## 2028 . 30124
## 2028 . 30124
## 2028 . 30201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20201
## 20202
## 20201
## 20201
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
## 20202
##
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5438 GGCTAATGTTTTTTTAGTAGAGATGGGGTTTCACCATGTTGCCAGGCTGGTCTCA 5497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JMA3 repeat: matches 5760. .5854 of consensus"
40018
/note="L1M4 repeat: matches 2384. .2280 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                         28940. .28996
/note="MLTIC repeat: matches 1. .60 of consensus"
29516. .29797
/note="L1 repeat: matches 4569. .4852 of consensus"
29988. .30227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  35658, 36016
/note="MLT1A1 repeat: matches 1, .365 of consensus"
36458, .36599
                              22948. .23244
/note="AluSx repeat: matches 1. .302 of consensus"
24358. .24397
/note="MIR repeat: matches 77. .116 of consensus"
24945. .25256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="LIMA3 repeat: matches 5760. .5854 of consen: 39660. .40018
/note="THEIC repeat: matches 1. .371 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          //orde=71 copies 2 mer ta 58% conserved"
37885. .38127
/note="AluY repeat: matches 72. .311 of consensus"
complement(38471, .38952)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Anote-"Alujb repeat: matches 1. .303 of consensus" 39570. .39659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .102 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 84778;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
1.4%; Score 75; DB 9; L.
Best Local Similarity 100.0%; Pred. No. 4.5e-29;
Matches 75; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="match: GSS: Em:AQ391908" 39149. 39246 .39246 .39555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              consensus
                              repeat_region
                                                                                              repeat_region
                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

RESULT (

us-09-966-880a-9.oli.rge

```
(http://bacpac.med.buffalo.edu) using the method described by Ioannou et al., Nature Genetics 6:84-9 (1994). The library is from
                                                                                                                                                                                                                                                There are polymorphic base pair differencees in the overlap between the clone RP5-1125K23 and RP4-607J2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST AA158750 (NID:g1733597) zo63e09.rl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (NID:91618634) zm20910.rl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA486040 (NID:92216256) ab40c06.rl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (NID:g2656333) ac83h04.s1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA079742 (NID:g1618634) zm20g10.rl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (NID:96749784) uo16c08.y1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA079742 (NID:g1618634) zm20g10.rl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (NID:96749784) uo16c08.y1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AA486040 (NID:92216256) ab40c06.rl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA914792 (NID:93054184) v209c01.rl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA914792 (NID: 93054184) vz09c01.rl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AW320240 (NID:96749784) uo16c08.yl"
                                                                                                                                                                      the clone sequenced lap. Actual end of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AW900299 (NID:98064504)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (NID:98064504)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (NID:98608888)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (NID:97856569)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AW900299 (NID:98064504)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (NID:97254616)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (NID:98608888)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (NID:97856569)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (NID:98608888)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (NID:97254616)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (NID:97254616)
                                                                                                                                                                      The clone sequenced to the left is RP4-607J2; the clot to the right is RP5-826E18, 200 base pair overlap. At this clone is at base position 123057 of RP5-1125K23.
                                                              (http://www.genomesystems.com) or Research Genetics, (http://www.resgen.com); or from Pieter de Jong. VECTOR: pCYPAC2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA079742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AW579567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA679866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AW804699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AW320240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AW320240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BE146164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AW804699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BE146164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AW900299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AW579567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BE146164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AW579567
                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
                                                                                                                                VECTOR: PCYPAC2
NEIGHBORING SEQUENCE INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                            /db_xref="taxon:9606"
/chromosome="7"
                                                                                                                                                                                                                                                                                                                                                                                            /clone="RP5-1125K23"
/clone_lib="RPCI-5"
65. .226
                                                                                                                                                                                                                                                                            Location/Qualifiers
1. .123253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         65. .210
/note="similar to
68. .225
/note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  470. .1527
note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="similar to
1470. 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   65. .225
/note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   837. .965
/note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         337. .965
/note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   337. .965
/note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         337. .965
/note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  837. .954
/note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            470. .1527
note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    470. .1527
note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77. .225
/note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1113. .1425
/rpt_family="Alu"
1470. .1527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /rpt_family="Alu"
837. oce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="similar t
1831. 1050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65. .225
/note="similar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65. .225
/note="similar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              837. .959
/note="similar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .225
                                                                                                                                                                                                                                                                                                                                                                                    /map="7"
                                                        one male donor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The sequence of this clone was established as part of a mapping and sequencing collaboration between the NHGRI Chromosome 7 Mapping Project (Eric D. Green, Director), John D. McPherson in the Department of Genetics (Washington University), and the Washington University Genome Sequencing Center. For additional information about the map position of this sequence, see http://www.nhgri.nih.gov/DIR/GTB/CHR7, send mailto:egreen@nhgri.nih.gov, or see http://genome.wustl.edu/gsc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (10-SEP-2000) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St. Louis, MO 63108, USA 5 (bases 1 to 123253) Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (30-SEP-2000) Department of Genetics, Washington University, 4444 Forest Park Avenue, St. Louis, Missouri 63108, USA on Sep 10, 2000 this sequence version replaced gi:7630775.

Center: Washington University Genome Sequencing Center
                                      PRI 30-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NOTICE: This sequence may not represent the entire insert of this clone. It may be shorter because we only sequence overlapping clone sections once, or longer because we provide a small overlap between neighboring data submissions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This sequence was finished as follows unless otherwise noted: all regions were double stranded, sequenced with an alternate chemistry, or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by sequence from more than one subclone; and the assembly was confirmed by restriction digest.
                                                                                                                                                                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalla; Butheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 123253)
Sulston, J. E. and Waterston, R.
Toward a complete human genome sequence
Genome Res. 8 (11), 1097-1108 (1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This clone was derived from human PAC library RPCI-5, prepared by Pieter de Jong and coworkers at the Roswell Park Cancer Institute
123253 bp DNA linear PRI 30-SE AC004971.3 GI:10047915 HTG.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
Submitted (12-JUN-1998) Genome Sequencing Center, Washington
University School of Medicine, 4444 Forest Park Parkway, St.
MO 63108, USA
4 (bases 1 to 123253)
Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                          Strowmatt, C., Ali, J. and Miller, K.
The sequence of Homo sapiens PAC clone RP5-1125K23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission Submitted (30.5EP-2000) Department of Genetics,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 (bases 1 to 123253)
Waterston, R.H.
                                                                                                                                                                                                                                                                                                                          (bases 1 to 123253)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAPPING INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submission
                                                                                                                                  sapiens.
                                                                                                                                                      sapiens
                                                                                                                                                                                                                                                                                                                                                                                      Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center
                                                                                                                                                                                                                                                                                                          9847074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct
                                                                                                                                Ношо
                                                                                                                                                      Ношо
                                  LOCUS
DEFINITION
              AC004971/c
                                                                                                                                                ORGANISM
                                                                    ACCESSION
VERSION
                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                  JOURNAL
MEDLINE
                                                                                                          KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                          PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
```

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 168524)
Plumb, B.
                                                                                                                                                                                                         Direct Submission
Submitted (09-JUL-2001) Sanger Centre, Hinxton, Cambridgeshire,
CBIO 15A, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
requests: clonerequest@sanger.ac.uk
On Apr 12, 2001 this sequence version replaced gi:9797524.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Assembly program: XGAP4; version 4.5
Sequencing vector: plasmid; L08752; 100% of reads
Chemistry: Dye-terminator Bl4 Dye; 100% of reads
Consensus quality: 164147 bases at least Q40
Consensus quality: 164147 bases at least Q30
Consensus quality: 165883 bases at least Q20
Insert size: 167324; sum-of-contigs
Insert size: 158470; 5.5% error; agarose-fp
Quality coverage: 4.52x in Q20 bases; sum-of-contigs Quality
coverage: 4.85x in Q20 bases; agarose-fp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              arbitrary. Gaps between the contigs are represented as runs of N but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      * NOTE: This is a 'working draft' sequence. It currently consists of 13 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 19496: contig of 19496 bp in length

1 19497 19596: gap of 100 bp

19597 38508: contig of 18912 bp in length

38509 38608: gap of 100 bp

38609 55774: contig of 17166 bp in length

55775 55877: gap of 100 bp

55875 81803: contig of 25929 bp in length

81804 89766 contig of 25929 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   126139 126238: gap of 100 bp
126239 138525: contig of 12287 bp in length
138526 138625: gap of 100 bp
138626 151528: contig of 12903 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96500: gap of 100 bp
126138: contig of 29638 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   158537 158636: gap of 100 bp 158637 16839: contig of 7693 bp in length 166330 166429: gap of 100 bp 166330 168524: contig of 2095 bp in length. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             81903: gap of 100 bp
89760: contig of 7857 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160: gap of 100 bp
96400: contig of 6540 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  151529 151628: gap of 100 bp 100 bp 156089: contig of 4461 bp in length 156090 156189: gap of 100 bp 156190 158336: contig of 2347 bp in length 158537 158636: gap of 100 bp 158537 158636: gap of 7693 bp in length 158637 166329: contig of 7693 bp in length
                                                                                                                                                                                                                                                                                                                                                                                          Contact: humquery@sanger.ac.uk
    PROGRESS ***, 13 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                       Web site: http://www.sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----- Summary Statistics
                                                              HTGS_PHASE1; HTGS_CANCELLED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="10"
/clone="RP11-215117"
                                          AL356418.9 GI:13620377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        89860:
                                                                                                                                                                                                                                                                                                                                                          Center code: SC
                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      89761 (
89861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                        ORGANISM
                       ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                   AUTHORS
TITLE
JOURNAL
                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST AA233940 (NID:91855135) zr27a04.rl"
                                        (NID:97540101) ba59f07.y1"
                                                                               EST AA914792 (NID:93054184) vz09c01.rl"
                                                                                                                     EST AW320240 (NID:96749784) uo16c08.yl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5438 GGCTAATGTTTTTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCA 5497
                                                                                                                                                                                                                                                                                                                                                                                                                                                        (NID:97540101) ba59f07.y1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST AA233940 (NID:91855135) zr27a04.rl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST AW320240 (NID:96749784) uo16c08.yl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST AI199495 (NID:93752101) qi56f08.x1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AW732308 (NID:97632637) bb02e08.y1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST AW732308 (NID:97632637) bb02e08.y1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST AW674791 (NID:97540101) ba59f07.y1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9177. .9363
/note="similar to EST A1199495 (NID:93752101) q156f08.x1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AL356418 168524 bp DNA linear HTG 11-JUL-2001
Homo sapiens chromosome 10 clone RP11-215117, *** SEQUENCING IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST BE146164 (NID:98608888)"
                                                                                                                                                                                                       EST AW579567 (NID:97254616)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.4%; Score 75; DB 9; Length 123253; 100.0%; Pred. No. 4.5e-29; tive 0; Mismatches 0; Indels 0
                                      EST AW674791
                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST AW674791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST
                                                                                                                                                                                                                                                                                                                                             2879 .3182
/rpt_family="Alu"
3317 .3425
/rpt_family="Alu"
3695 .3887
/note="similar to 1
3695 .3866
/note="similar to 1
3695 .3784
/note="similar to 1
3695 .3784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4752 5441
/rpt_family="BRV1"
5526 5556
/rpt_family="Alu"
5759 6067
/rpt_family="Alu"
6154 6190
/rpt_family="Alu"
6220 6500
/rpt_family="Alu"
7722 7687
/rpt_family="Alu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3/39, .3887
/note="similar to .3862, .3887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3862. .3887
/note="similar to 4752. .5441
                                                         1833. .1953
/note="similar to
1833. .1952
/note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1177. .9365
/note="similar to
                                                                                                                                                                                                                      72205. .2327
/rpt_family="L1"
2338. .2644
/rpt_family="Alu"
2656. .2822
  'note="similar to
                   (831. .1952
'note="similar to
                                                                                                                                             1833. .1934
/note="similar to
                                                                                                                                                                                   .833. .1925
'note="similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   // 1016="similar to 9177. 9346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rpt_family="Alu"
965. .8265
                                                                                                                                                                                                                                                                                                                            /rpt_family="Alu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          965. .8265
rpt_family="Alu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          104278 AACTCCTGACCTCAG 104264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5498 AACTCCTGACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             75; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AL356418
                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                         misc_feature
                                                                                                misc_feature
                                                                                                                                        misc_feature
                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 7
AL356418
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
Submitted (25-37N-2000) Masahira Hattori, The Institute of Physical and Chemical Research (RIKBN), Genomic Sciences Center (GSC); Kitasato Univ., 1-15-1 Kitasato, Sagamihara, Kanagawa 228-8555, Japan (E-mail:hattori@gsc.riken.go.jp, URL:http://hgp.gsc.riken.go.jp, Tel:81-42-778-9923, Fax:81-42-778-9924)
On May 30, 2000 this sequence version replaced g1:6997374.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NOTE: This is a 'working draft' sequence. It currently consists of 5 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be
                                                                                                                                                                                                                                                                                                                                                          Web site: http://hgp.gsc.riken.go.jp/
Contact: hattori@gsc.riken.go.jp/
Contact: hattori@gsc.riken.go.jp/
Center project name: HumDraftl1
Center clone name: CMB9-9E9
Consensus yearistics
Assembly program: Phrap; version 0.990329
Consensus quality: 27370 bases at least Q40
Consensus quality: 2818B bases at least Q30
Consensus quality: 28581 bases at least Q30
Consensus quality: 28581 bases at least Q20
Insert size: 28959; sum-of-contigs
Quality coverage: 10.68x in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   * arbitrary. Gaps between the contigs are represented as * runs of N, but the exact sizes of the gaps are unknown. * This record will be updated with the finished sequence * as soon as it is available and the accession number will * be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 19044 contig of 19044 bp in length
19145 22611 contig of 3467 bp in length
22712 26518 contig of 3807 bp in length
26619 28009 contig of 1391 bp in length
28110 29359 contig of 1250 bp in length
28110 29359 contig of 1250 bp in length
3810 29359 contig of 1250 bp in length
4 NOTE: This is a "working draft' sequence. It currently
4 consists of 5 contigs. The true order of the pieces
4 is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19044: contig of 19044 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19045 19144: gap of 100 bp 19145 22611: contig of 3467 bp in length 22612 22711: gap of 100 bp 22712 26518: contig of 3807 bp in length 26519 2668: gap of 100 bp 26619 28009: contig of 1391 bp in length 28109: gap of 100 bp 28109: gap of 2600 bp in length 28110 29359: contig of 1250 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100 bp 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19145. .25611 ...
/note="assembly_fragment"
22712. .26518 /note="assembly_fragment"
26619. .28009 /note="assembly_fragment"
28110. .29559 /note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .19044
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="11"
/map="11q22"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone="CMB9-9E9"
                                                                                                                                                                                                                                                                                                                                         Center code: RIKEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              preserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APUUIU83 29359 bp DNA linear HTG 30-MAY-2000
Homo sapiens chromosome 11 clone CMB9-9E9 map 11q22, WORKING DRAFT
SEQUENCE, 5 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Pases 1 to 29359)
Hattori,M., Ishii,K., Toyoda,A., Taylor,T.D., Hong-Seog,P., Fujiyama,A., Yada,T., Totoki,Y., Watenabe,H. and Sakaki,Y. Published Only in DataBase (2000)
2 (Bases 1 to 29359)
Hattori,M., Ishii,K., Totoki,Y., Watenabe,H. and Sakaki,Y. Published Only in DataBase (2000)
Published Only in DataBase (2000)
Publishik., Toyoda,A., Taylor,T.D., Hong-Seog,P., Fujiyama,A., Yada,T., Totoki,Y., Watenabe,H. and Sakaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.4%; Score 75; DB 2; Length 168524;
100.0%; Pred. No. 4.4e-29;
tive 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1203 others
                     96501...126138

/note-"assembly_fragment:00381

fragment_chain:3"

126239..138525

/note-"assembly_fragment:00176

fragment_chain:3"

/note-"assembly_fragment:00614

fragment_chain:4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  166430. 168524
/note="assembly_fragment:01755"
33132 c 33014 g 47867 t 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="assembly_fragment:00877"
158637. 166329
/note="assembly_fragment:01428"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="assembly_fragment:01732
fragment_chain:4"
156190. .158536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HTG; HTGS_PHASE1; HTGS_DRAFT.
Homo sapiens DNA, clone:CMB9-9E9.
/clone_lib="RPCI-11.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15403 AACTCCTGACCTCAG 15417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AP001083.2 GI:8117230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5498 AACTCCTGACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.0°
Matches 75; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AP001083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        53308
                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                              misc_feature
                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AP001083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
```

g ò g

```
is contig of 1669 bp in length gap of unknown length contig of 1128 bp in length gap of unknown length contig of 3762 bp in length contig of 3762 bp in length gap of unknown length contig of 4665 bp in length contig of 6288 bp in length gap of unknown length contig of 6288 bp in length gap of unknown length gap of unknown length gap of unknown length gap of unknown length contig of 8671 bp in length gap of unknown length contig of 10495 bp in length gap of unknown length gap of u
                                                                         length
                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="assembly_name:Contigl3"
15424. 18905
/note="assembly_name:Contigl4"
19006. 23670
/note="assembly_name:Contigl5"
23771. 30058
/note="assembly_name:Contigl5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14505. 43175
/note="assembly_name:Contigl8"
13276. 53770
/note="assembly_name:Contigl9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6955. .8464
/note="assembly_name:Contig10"
8565. .10233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="assembly_name:Contigl1"
10334. .11461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80159. .34404
/note="assembly_name:Contig17"
84505. .43175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="assembly_name:Contig21"
82802. .107645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3547. .5274 /-
/note="assembly_name:Contig8"
5375. .6854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5375. .6854
/note="assembly_name:Contig9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     note="assembly_name:Contig12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="assembly_name:Contig6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1513. .3446
/note="assembly_name:Contig7"
                                                                                                    1510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. .168079
/organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualiflers
                                                                                                    contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /chromosome="3"
/clone="RP11-147G7"
                                                                         gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vector_side:right"
11562. .15323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   135451:
                                                                                                                                                                                                                                                                                                                                                                                  23670:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            135351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     34404:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82701:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       107645:
                                                                                                                                                                                      10333:
                                                                                                                                                                                                                                                                                                   15423:
18905:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34504:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            53870:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64674:
                                                                                                                                                                                                                                           11561
                                                                                                                                                                                                                                                                                                                                                           19005
                                                                                                    8464
                                                                                                                                                                                                                                                                                                                                                                                                                                             30058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               53770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       43275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . .1412
           5275
6855
6855
6855
6955
876
10234
11462
115324
115324
119006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
19006
1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                            5438 GGCTAATGTTTTGTATTTTTAGTAGAGGTGTGTCACCATGTTGGCCAGGCTGGTCTCA 5497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACO24709 168079 bp DNA linear HTG 01-SEP-2000
Homo sapiens chromosome 3 clone RPI1-147G7, WORKING DRAFT SEQUENCE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Obsess 1 to 168079)
Waterston, R.H.
Direct Submission
Submitted (01-MAR-2000) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St. Louis, MO 63108, USA
On Aug 17, 2000 this sequence version replaced gi:7630865.
                                                                                                                                                      ·;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 168079)
Waterston, R. H.
                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NOTE: This is a 'working draft' sequence. It currently consists of 19 contigs. The true order of the pleces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chemistry: Dye-primer ET: 96% of reads
Chemistry: Dye-terminator Big Dye; 4% of reads
Assembly program: Phrap; version 0.990319
Consensus quality: 158772 bases at least Q40
Consensus quality: 160752 bases at least Q20
Insert size: 168000; agarose-fp
Insert size: 168000; sam-of-contigs
Quality coverage: 4.90 in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Center: Washington University Genome Sequencing Center
Center code: WUGSC
                                                                                              Length 29359;
           400 others
                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of 1412 bp in length
gap of unknown length
contig of 1934 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
bp in length
                                                                                     1.3%; Score 74; DB 2; L
100.0%; Pred. No. 1.6e-28;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----- Genome Center ------
        8470 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
of 1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The sequence of Homo sapiens clone Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AC024709.5 GI:9838092
HTG; HTGS_PHASE1; HTGS_DRAFT.
     6443 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
contig
                                                                                                                                                                                                                                                                                                                                            22116 AACTCCTGACCTCA 22129
                                                                                                                                                                                                                                                                                                            5498 AACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1412:
1512:
3446:
3546:
5274:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unordered pieces.
     6357 c
                                                                            Query Match
Best Local Similarity 100.(
Matches 74; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1413
1513
3447
3547
  7689 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
ORGANISM
BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 9
AC024709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                             ORIGIN
```

```
92324 96542: cont.y ... 100 bp

96543 96642: gap of 100 bp

96643 99978: contig of 3236 bp in length

99879 99978: gap of 100 bp

105559 105568: contig of 5880 bp in length

105559 122337: contig of 16679 bp in length

* 122338 122437: gap of 100 bp

* 122438 122437: gap of 100 bp

* 122438 1228755: contig of 6318 bp in length
                           26071: gap of 100 bp
46738: contig of 20667 bp in length
46838: gap of 100 bp
56508: contig of 9670 bp in length
                                                                                                                                                                                                                                                                                                19: gap of 100 bp 12802: contig of 10913 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6753: gap of 100 bp
149239: contig of 12486 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                149240 149339: gap of 100 bp 149340 156036: contig of 6637 bp in length 1556137 161800: contig of 5664 bp in length 161801 161900: gap of 100 bp 161801 169950: contig of 7050 bp in length 161901 160950: gap of 100 bp 161901 172376: contig of 3326 bp in length 169051 172376: contig of 3326 bp in length.
                                                                                                                                                                   108: gap of 100 bp 59070: contig of 2462 bp in length 770: gap of 100 bp in length 61789: contig of 2619 bp in length
                                                                                                                                                                                                                                                                                                                                                               72902: gap of 100 bp 75383: contig of 2481 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                 183: gap of 100 bp 7 100 bp 7 100 bp 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      92323: gap of 100 bp
96542: contig of 4219 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1875: gap of 100 bp
136653: contig of 4778 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55: gap of 100 bp 92223: contig of 4068 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8855: gap of 100 bp 131775: contig of 2920 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20793. .33652
/note="assembly_fragment:00840
fragment_chain:1"
23753. .25971
/note="assembly_fragment:00060
fragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               46839. .56508
/note="assembly_fragment:00077
fragment_chain:3"
56609. .59070
/note="assembly_fragment:01416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="assembly_fragment:00680
clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17428...20692
/note="assembly_fragment:00043
fragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
1. 172376
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /chromosome="9"
/clone="RP11-138018"
/clone_lib="RPCI-11.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                vector_side:left"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   131776 131875: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     136654 136753:
                                                                                                                                                                                                                                  59170:
                                                                                                                                                                                                                                                                                                    61889:
                                                                                                                                                                                                                                                                                                                                                                                                                                        75483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80936
                                                                                                                                                                   56608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   78612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HTG 10-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                  5438 GGCTAATGTTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCA 5497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi;
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (10-JUL-2001) Sanger Centre, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk on Aug 21, 2000 this sequence version replaced gi:9213188.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     172376 bp DNA linear HTG 10-JUL e 9 clone RP11-138018, *** SEQUENCING IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Assembly program: XGR44; version 4.58
Assembly program: XGR44; version 4.58
Sequencing vector: plasmid; L08752; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Consensus quality: 155786 bases at least Q40
Consensus quality: 165580 bases at least Q30
Consensus quality: 166550 bases at least Q20
Insert size: 168976; sum-of-contigs
Insert size: 191077; agarose-fp
Coulity coverage: 3.70x in Q20 bases; sum-of-contigs Quality
Coverage: 3.43x in Q20 bases; agarose-fp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          * NOTE: This is a 'working draft' sequence. It currently consists of 26 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                     Length 168079;
                                                                                                                                                                   1826 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17327: contig of 17327 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17328 17427: gap of 100 bp
17428 20692: contig of 3265 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17428 20692: contig of 3265 bp in length 20693 20792: gap of 100 bp 20793 23652: contig of 2860 bp in length 23653 23752: gap of 100 bp
                                                                                                                                                                                                                                                              Query Match
1.3%; Score 74; DB 2; L.
Best Local Similarity 100.0%; Pred. No. 1.5e-28;
Matches 74; Conservative 0; Mismatches 0;
                           ature 107746. .135351

//note="assembly_name:Contig23"

ature 135452. .168079

//note="assembly_name:Contig24"

49957 a 32303 c 31709 g 52284 t
/note="assembly_name:Contig22"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: humquery@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens chromosome 9 clone R. PROGRESS ***, 26 unordered pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                site: http://www.sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AL353749.3 GI:9863661
HTG; HTGS_PHASE1; HTGS_CANCELLED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
1 (bases 1 to 172376)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center project name: bA138018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122950 AACTCCTGACCTCA 122963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5498 AACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plumb, B.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AL353749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               human.
                               misc_feature
                                                                                             misc_feature
                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
AL353749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
```

JOURNAL

COMMENT

ACCESSION VERSION KEYWORDS SOURCE

g à g

```
Submitted (12-MAY-2001) Sanger Centre, Hinxton, Cambridgeshire, Cabonitted (12-MAY-2001) Sanger cac.uk
CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clone-equestGesanger.ac.uk
On May 15, 2001 this sequence version replaced gi:13872249.
During sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.
This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >- 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one MI3 subclone: and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em: EMBL; Sw: SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 9, constructed by the Sanger Centre Chromosome 9 Mapping Group. Further information can be found at http://www.sanger.ac.uk/HGP/Chfn9 http://www.sanger.ac.uk/HGP/Chfn9 of FP11.176F3 is from the Library RP01-11.1 constructed by the group of Pieter de Jong. For further details see
  Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             http://www.chori.org/bacpac/home.htm
VECTOR: pBACe3.6
This sequence is the entire insert of clone RP11-176F3 The true
left end of clone RP11-138018 is at 125710 in this sequence. The
true right end of clone RP11-133022 is at 92565 in this sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5145. .5843

//note="LiPA16 repeat: matches 5460. .6157 of consensus"

7725 - 7802

/note="MIR repeat: matches 64. .150 of consensus"

7860. .8316

/note="LiMD repeat: matches 1189. .1689 of consensus"

8317. .8618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="L1MC1 repeat: matches 5649. .5823 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8317. 8618
/note="AluSx repeat: matches 1. .302 of consensus"
8619. 8714
/note="LIMD repeat: matches 1097. .1189 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 545. .689
//note="MRR5A repeat: matches 34. .182 of consensus"
1993. .2148
//note="3 copies 52 mer 92% conserved"
4526. .4577
//note="26 copies 2 mer aa 80% conserved"
4880. .5119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9213. .9358
/note="FLAM_C repeat: matches 1. .142 of consensus" 9380. .9631
/note="Lind repeat: matches 43. .282 of consensus" 9632. .9804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone_lib="RPCI-11.1"
359. .530
/note="MER5B repeat: matches 16. .178 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 880. .5119 'note-"AluSx repeat: matches 1. .259 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .6332 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8724. .9205
/note="L1MC1 repeat: matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. 193280
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="taxon:9606"
/chromosome="9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone="RP11-176F3"
                       Mammalia; Eutheria; Pri
1 (bases 1 to 193280)
                                                                   Tracey, A.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                            REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AL139113 193280 bp DNA linear PRI 12-MAY-2001
Human DNA sequence from clone RPI1-176F3 on chromosome 9, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5438 GGCTAATGTTTTTTTAGTAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 172376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       vector_side:right"
47584 a 38065 c 37064 g 47145 t 2518 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                           61890. .72802
/note="assembly_fragment:00688
fragment_chain:4"
72903. .75383
/note="assembly_fragment:00093"
75484. .78512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        156137. .161800

/note="assembly_fragment:00235

fragment_chain:5"

161901. .168950

/note="assembly_fragment:00728

fragment_chain:5"

169051. .172376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           y Match 1.3%; Score 74; DB 2; Lr
Local Similarity 100.0%; Pred. No. 1.5e-28;
hes 74; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                      'note-"assembly_fragment:00116"
                  59171. .61789
/note="assembly_fragment:00144
fragment_chain:4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="assembly_fragment:00685
fragment_chain:5
fragment_chain:3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GI:14041744
                                                                                                                                                                                                                                                  .80836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14103 AACTCCTGACCTCA 14116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5498 AACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                clone_end:T7
                                                                                                                                                                                                                                                8613.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALI39113
AL139113.21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human.
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence.
                    misc_feature
                                                                                        misc_feature
                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
AL139113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
```

ò g ò g us-09-966-880a-9.oli.rge

renear	) ) )	repear	repeat	repeat	repeat	repeat	repeat	repeat	repeat	repeat	repeat	repeat	repeat	repeat	repear	reodox	מבלים ד	repea	repea	repea	repea	pada 1	repeat	repea	Query Mai	Matches	QY 54	Db 139.	Qy 54	Db 1398		RESULT 12 AC048334/c	LOCUS	ACCESSION	KEYWORDS	SOURCE	REFERENCE	WILL ENGINE
9802 9920		/note="16 copies 2 mer gt 100% conserved"	nato	2 -11 302 0	atches 1. 312 of c	+choc 470 600 of	LCINES 4/0. :009 OI	nes 23622530 OF	eat: matches 19312203 of cons	matches 46755036 of consensus	repeat: matches 5295 of co	matches 50365867 of consens	50671 of consensus"	ss 1592	/note="AluSg repeat: matches 33299 of consensus" 1506416072	/note="L1 repeat: matches 33034289 of consensus"	/note="Alustranger: matches 1299 of consensus"	10374. 10313 /note="L1 repeat: matches 42894432 of consensus" 1655 1663	/note: .10032 /note-Alusq/x repeat: matches 1108 of consensus"	/notal 17032 /note="Alust repeat: matches 1308 of consensus" 1737 1730	//oce="L2 repeat: matches 26992750 of consensus"	/note="L2 repeat: matches 26242694 of consensus"	1810318761 /note="LLMC3 repeat: matches 71107727 of consensus" 1975. 1965		/notes" MIR Tepeat: matches 132248 of consensus"	/notes 1210. 1210. // notenes 134. 308 of consensus and 2160.			//Octor=100 Copies 2 Her CC 3/8 Conserved 216692170 conies 2 Her CC 3/8 Conserved	mer as 100\$		matches 1296 of	matches 1278 of	matches 1290 OI	matches 1295 or	repear: marches 1: .230 OI Consensus	1312 s 1135	10 651.
repeat region	T taogon	repeac_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat region	repeat region	ropost region	repeat_region	repeat_region	repeat_region	repeat_region	Tepear Taging	repeat_region	repeat region	repeat region	miso feature	0 100 100 100 100 100 100 100 100 100 1	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	repeat_region	

```
139758 GCCTAATGTTTTTTTTTTTTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCA 139817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens 3 BAC RP11-572015 (Roswell Park Cancer Institute Human ACO48334 ACO48334.21 GI:15027693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5438 GGCTAATGTTTGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCA 5497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 215719)
                                                                                                                                                                /note="AluSg/x repeat: matches 131. .298 of consensus" 31857. .32040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="AluSx repeat: matches 137. .308 of consensus" 32041. .32337 /note="AluSx repeat: matches 1. .296 of consensus" 32338. .32470
                                                                                                          /note="AluSx repeat: matches 150. .302 of consensus" 28467. .28505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="Alusx repeat: matches 5. .301 of consensus" 34281. .34377 /note="HY3 repeat: matches 1. .97 of consensus" 34378. .34421
16684. .26978
Thote="AluSx repeat: matches 1. .295 of consensus"
17513. .27657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    33462. .33759
/note="AluSx repeat: matches 1. .299 of consensus"
33792. .34088
                                        27015-1.27057
70015-1.27057
27658. .27957
                                                                           /note="Alux repeat: matches 1. .297 of consensus" 27958. .28125
                                                                                                                                       /note="Alux repeat: matches 1. .47 of consensus"
28548. .28843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 193280;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="22 copies 2 mer aa 79% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 1.3%; Score 74; DB 9; Lk Best Local Similarity 100.0%; Pred. No. 1.5e-28; Matches 74; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        139818 AACTCCTGACCTCA 139831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5498 AACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
Homo sapiens
                                                                                                                                                                                                                                                      repeat_region
 repeat_region
                                  repeat_region
                                                               repeat_region
                                                                                             repeat_region
                                                                                                                            repeat_region
                                                                                                                                                           repeat_region
                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C048334/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /ERSION
(EYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCESSION
```

```
Margiy,D., Manack,C., Adlo, Ale, All-Osadan,F.Y., Allen,C.,
Alsbrooks,S.L., Amaratunge,H.C., Are,J.R., Banks,T., Banks,T.,
Burde,D., Binage,K., Blankenburg,K., Bonnin,D., Bouck,J.,
Bowie,S., Brieva,M., Brown,E., Brown,M., Bryant,N.P., Buhay,C.,
Burch,P., Burket,C., Burrell,K.L., Byrd,N.C., Carron,T.P.,
Carter,M., Cavazos,S.R., Chacko,J., Chave,D., Chen,G., Chen,R.,
Chow,C., Chowdhry,I., Charistopoulos,C., Cleveland,C.D., Cox,C.,
Coyle,M.D., Dathorne,S.R., David,R., Davis,C.,
Davy-Carroll,L., Dederich,D.A., Delaney,R.R., Delgadro,D.,
Dauthon,R.J., Earnhart,C., Edar,D., Edar,D., Edar,D.,
Elbaj,C., Escotto,M. Falls,T., Ferraguto,D., Flagar,D., Edarer,R.,
Coyle,M.D., Chowdhry,I., Gorrell,J.H., Guevara,W., Garcia,A., Garner,T.,
Garza,N., dill,R., Gorrell,J.H., Guevara,W., Havlaks,P., Harris,C.,
Hamilton,K., Harris,C., Hernandez,O., Hondson,R., Houses,M.,
Holloway,C., Hollins,B., Homai,F., Howard,S., Huber J., Hulyk,S.,
Hume,J., Jackson,E., Kelly,S., Kharl,W., Marlis,C.,
Edats,L., Lid,J., Li,Z., Lichtarge,O., Lieu,C., Liu,J., Liu,W.,
Loulseged,H., Lozado,R.J., Lucier,R., Martin,R., Martindele,R.,
Ma,J., Marshwari,M., Moorish,R., Martin,R., Martindele,R.,
Mei,G., Merzker,M., Miner,G., Miner,Z., Mitchell,T., Mohabbat,K.,
Mei,G., Merzker,M., Miner,G., Miner,Z., Mitchell,T., Mohabbat,K.,
Mei,G., Merzker,M., Miner,G., Martin,R., Martingle,R.,
Nordan,S., Norgan,M., Moorish,T., Mortis,S., Savery,G., Scherer,S.,
Pickerson,E., Navkenkwo,S., Oguh,M., Okwonu,G., Oraqunye,N.,
Ovidedo,R., Pace,A. Paylon,B., Peery,J., Percest,L., Peterson,E.,
Potchens,R., Pace,A. Paylon,B., Peery,J., Percest,L., Peterson,E.,
Potchens,R., Pace,A. Paylon,B., Peery,J., Percest,L., Peterson,B., Peery, M., Tansey,J., Taylor,C.,
Taylor,T., Tamerisa,A., Tamerisa,K., Tang,H., Stone,H., Sutch,A., Tang,B., Warten,R., Wartington,C., Waltington,C., Waltington,C., Waltington,C., Waltington,C., Waltington,S., Williamson,A., Walcon,J., Suckilla,R., Waltington,C., Waltington,C., Waltington,S., Wolley,R., Waltington,C., Waltington,C., Waltington,C., Waltington,C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (04-DEC-2001) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 7030, USA
On Jul 28, 2011 this sequence version replaced gi:15022627.
INFORMATION: http://www.hgsc.bcm.tmc.edu/ or email
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (01-AUG-2001) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA (bases 1 to 215719)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (27-SEP-2001) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA (bases 1 to 215719)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (14-APR-2000) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA (bases 1 to 215719)
Muzny, D.M., Adams, C., Adio-Oduola, B., Ali-osman, F.R., Allen, C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 215719)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Worley, K.C.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Worley, K.C.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Worley, K.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Worley, K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
```

```
the insert may be found in the record for the adjacent clones.
                                    Overlapping clones are noted at the beginning and end of the
```

```
Features listing.
```

ANNOTATION OF FEATURES:

STSS are identified using ePCR (Genome Res. 7:541-550) searches of a local database that includes entries from dbSTS, GDB, and local mapping efforts.

Repeats are identified using RepeatMasker (A. Smit and P. Green, unpublished.) for Human and Mouse sequences.

Genes and Region of sequence similarity are identified by BLAST (Nuc. Acids Res. 25:3389-3402) similarity (expect < le-34) to the EST and cDNA sequences. Genes demonstrate at least two exons flanked by consensus splice sites that maintained sequence continuity across the splice junctions. Sequences that are not identical matches are annotated as similar.

SEQUENCING READ COVERAGE:Sequencing is completed to a minimum standard of double strand coverage with a minimum of 2 clones and 2 reads with no ambiguities or 2 chemistries with a minimum of 2 clones and 3 reads with no ambiguities. If the sequence quality for a region does not meet this standard, it will be indicated in the annotation as Low Coverage.

standards - estimated error rate less than 1 per 10,000 bases. Reports of lowest quality individual bases and measures of base quality are listed below. Description of the metrics can be found at URL: http://gc.bcm.tmc.edu:8088/quality.info/genbank.annotation. DUALITY OF INDIVIDUAL BASES: This sequence meets stringent quality

```
'note="overlaps bases 3705. .6000 of clone AC069516"
                                                                                                                            /function="clone overlap"
complement(447, .556)
/rpt_family="L2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /rpt_family="Alusq"
complement(8126. .8364)
rpt_family="LiME3"
complement(8365. .9004)
/rpt_family="LTRB"
                         1. 215719
/organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                      /rpt_family="MIR"
complement(4624..4710.
                                                                                                                                                                      623._.1065
/rpt_family="L2"
complement(1882..2179)
                                                                                                                                                                                                                                                                                   /rpt_family="MIR"
1824. 5121
                                                                                                                                                                                                                                                                                                                                                                              5772)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .8112)
                                                                                                                                                                                                                                                                                                                                                                                                                                        .6937)
                                                                                                                                                                                                                                                                                                                                                            /rpt_family="AT_rich"
complement(5459..577
                                                                        /chromosome="3"
/clone="RP11-572C15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                 'rpt_family="MER34B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /rpt_family="MER33"
7371. .7529
             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                 /rpt_family="AluSg"
5248. .5271
                                                                                                                                                                                                                                                                                                                                                                                         /rpt_family="AluSq"
                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family-"MER33"
                                                                                                                                                                                                                  /rpt_family="AluSq"
3667. .3843
                                                                                                                                                                                                                              3667. .3843
/rpt_family="LIME"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /rpt_family="MIR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complement(7818.
                                                                                                                                                                                                                                                                                                                                                                                                                                      complement (6875
                                                                                                                                                                                                                                                                                                                                                                                                           .6846
                                                                                                                                                                                                                                                                                                                     4824. .513
                                                                                                . .2296
QUALSTAT-REPORT
                                                                                                                                                                                                                                                                                                                                                                                                           6767.
                                                                                                                                            repeat_region
                                                                                                                                                                         repeat_region
                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                   misc_feature
                               source
               FEATURES
```

CLONE LENGTH: This sequence does not necessarily represent the entire insert of this clone. Overlapping regions of clones are only sequenced and submitted once, so the sequence for the remainder of

```
Birren, B., Linton, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Baldwin, J., Barna, N., Beckerly, R., Beda, F., Boguslavkiy, L., Boukhagler, B., Erowi, A., Burkett, G., Castle, A., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., Dearellano, K., Dewar, K., Domino, M., Doyle, M., Fenestor, J., Ferreira, P., Fizhugh, W., Forrest, C., Gale, D., Galagan, J., Gardyna, S., Grant, G., Hagos, B., Hagota, B., Hacton, L., Karatas, A., Klein, J., Landers, T., Lehoczky, J., Levine, R., Lieut, C., Liu, G., Locke, K., Macdonald, P., Marquis, N., McBwan, P., McGurk, A., McKernan, K., McPheeters, R., Maldrim, J., Meneus, L., Morrow, J., Naylor, J., Norman, C.H., O'Connor, T., O'Donnell, P., Olivar, T.M., Peterson, K., Pisani, C., Pollara, V., Raymond, C., Riley, R., Rodore, J., Tirrell, A., Vassiliev, H., Viel, R., Vo, A., Tesfaye, S., Theodore, J., Zinmer, A. and Zody, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lustect Journals Street, Cambridge, MA 02141, USA
Research, 320 Charles Street, Cambridge, MA 02141, USA
Research, 320 Charles Street, Cambridge, MA 02141, USA
3 (bases 1 to 17943)
Burna,N., Bastien,V., Boguslavkiy,L., Boukhgalter,B., Brown,A., Campopiano,A., Chopel,Y., Colangelo,M., Collins,S., Calangopiano,A., Chopel,Y., Colangelo,M., Collins,S., Collymore,A., Cooke,P., DeArellano,K., Dewar,K., Diaz,J.S., Dodge,S., Ferreira,P., FitzHugh,W., Gage,D., Galagan,J., Gardyna,S., Goyette,M., Graham,L., Grand-Pierre,N., Indeo,S.C., Raratas,A., LaRoque,K., Lamazares,R., Landers,T., Johnson,R., Jones,C., Raratas,A., Laroque,K., Lamazares,R., Landers,T., Lethoczky,J., Levine,R., Liu,G., MacLean,C., Macdonald,P., Marquis,N., Matthews,C., McCarthy,M., McEwan,P., McKernan,K., McPheeters,R., Meldrim,J., Meneus,L., Mihova,T., Mernan,V., McPharthews,C., McCarthy,M., Raymon,C., Norman,C.H., Colonnell,P., O'Neill,D., O'Neillara,V., Sougnez,C., Spencer,B., Starbas,R., Schupback,R., Schupback,D., Yungan,D., Ye,W.J., Young,G., Zainoun,J., Robert, For Ganchell, Camback,L., Zimmer,A., and Zody,M., Zenback, J., Zenba
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (24-A0G-2002) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA on Jan 27, 2001 this sequence version replaced g1:11181823.
All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatWasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Center code: WIBR
Web Site: http://www.seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
Center project name: L5402
Center clone name: L39_L6

Center clone name: L39_L6

Center clone name: L39_L6

Sequencing vector: M13; M77815; 2% of reads
Sequencing vector: Plasmid; n/a; 98% of reads
Sequencing vector: M13; M77815; 2% of reads
Sequencing vector: M13; M77815; 2% of reads
Sequencing vector: M13; M77815; 2% of reads
Consensus quality: 17329 bases at least Q40
Consensus quality: 17329 bases at least Q40
Consensus quality: 173649 bases at least Q20
Consensus quality: 173649 bases at least Q20
Insert size: 169000; agarose-fp
Quality coverage: 9.4 in Q20 base; agarose-fp
Quality coverage: 9.2 in Q20 base;

NOTE: This is a "working draft' sequence. It currently
consists of 3 contigs. The true order of the pleces
is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
   REFERENCE
                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACU22717 173943 bp DNA linear HTG 24-AUG-2002 Homo sapiens chromosome 8 clone RP11-139K6 map 8, WORKING DRAFT SEQUENCE, 3 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 173943)
Birren, B., Linton, L., Nusbaum, C. and Lander, E.
Homo sapiens chromosome 8, clone RP11-139K6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 215719;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 1.3%; Score 74; DB 9; Lei
Best Local Similarity 100.0%; Pred. No. 1.5e-28;
Matches 74; Conservative 0; Mismatches 0;
                                                                                                       /rpt_family="LIME3"
complement(10382. 10670)
/rpt_family="Alux"
10979. 11017
                                                                                                                                                                                                                                                                                                   /rpt_family="MLT1A1"
12687. .12708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complement(14603. .14908)
/rpt_family="Aluy"
16545. .16586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family="(TAAAA)n"
complement(14000. .14033)
/rpt_family="MIR"
14301. .14326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /rpt_family="LlME1"
complement(21795. .22127)
                                                                                                                                                                                                                                                                                                                                                                                                    /rpt_family="AT_rich"
complement(13613, .13665)
/rpt_family="MIR"
13666, .13947
                                                                                       y-"Tigger2a"
                                                                                                                                                                                                                                                                                /rpt_family="AT_rich"
complement(12207. .125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="AT_rich"
14327. .14441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'CT-rich"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /rpt_family="MLTIC"
18471. .18529
/rpt_family="MIR"
19405. .19513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /rpt_family="MER97a"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC022717.4 GI:12583845
HTG; HTGS_PHASE1; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /rpt_family*"AluSx"
13948. .13999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="(T)n"
17824. .18277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="L1M4"
19844. .21794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /rpt_family="MIR"
19609. 100.7
                                                   9469. .9895
/rpt_family="Tigo
complement(9896.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   122306 AACTCCTGACCTCA 122293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .17213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family='
17189. .17213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5498 AACTCCTGACCTCA 5511
repeat_region
                                                             repeat_region
                                                                                                                           repeat_region
                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 13
AC022717/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
```

g ò

```
misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                         TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC027595 195661 bp DNA linear HTG 08-JUL-2001
Homo sapiens chromosome 8 clone RP11-359A12 map 8, WORKING DRAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dustran, B., Linton, L., Musbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Baldwin, J., Barna, N., Bastien, V., Beda, F., Boduslaykity, E., Boukhgalter, B., Brown, A., Burkett, G., Campoplano, A., Castle, A., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., Dearellano, K., Dewar, K., Diaz, J.S., Dodges, S., Domino, M., Doyle, M., Ferreira, P., FitzHugh, W., Gage, D., Ganagan, J., Gardyna, S., Ginde, S., Hagos, B., Heaford, A., Horton, L., Howland, J.C., Iliev, I., Johnson, R., Jones, C., Kann, L., Karatas, A., Klein, J., LaRocque, K., Lawazares, R., Landers, T., Lehoczky, J., Levine, R., Lieu, C., Liu, G., Locke, K., Macdonald, P., Marquis, N., McCarthy, M., McEwan, P., McKernan, K., McPheeters, R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 195661)

Birren, B., Linton, L., Nusbaum, C. and Lander, E.

Homo sapiens chromosome 8, clone RPI1-359A12

Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 173943;
                                                                                                                153468: contig of 153468 bp in length
153469 153568: gap of 100 bp
153569 153791: contig of 223 bp in length
153892 153891: gap of 100 bp
153892 173943: contig of 20052 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.3%; Score 73; DB 2; Length 173:
100.0%; Pred. No. 5.3e-28;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   202 others
                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="RPCI-11 Human Male BAC"
1. .153468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AC027595.3 GI:14626930
HTG; HTGS_PHASE1; HTGS_DRAFT; HTGS_FULLTOP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vector_side:right"
a 35630 c 36092 g 53491 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="assembly_fragment"
153892. .173943
/note="assembly_fragment
                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="8"
                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="assembly_fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE, 8 unordered pieces.
                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                         /clone="RP11-139K6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vector_side:left"
153569. .153791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .153791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        149848 ACTCCTGACCTCA 149836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 195661)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    clone_end:T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5499 ACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 1.3%
Best Local Similarity 100.(
Matches 73; Conservative
                                                                                                                                                                                                                                                                                                                                                                /map="8"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              48528
                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 14
AC027595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
SOURCE
                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
```

ò

```
Center code: WIBR
Web site: http://www-seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
------ Project Information
Center project name: L9099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6 195661: contig of 150786 bp in length.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                36680: contig of 36680 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36681 36788: gap of 100 bp
36781 38091: contig of 1311 bp in length
38092 38191: gap of 100 bp
38192 39416: contig of 1225 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16: gap of 100 bp
40566: contig of 1050 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40567 40666: gap of 100 bp
40667 42013: contig of 1347 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               42014 42113: gap of 100 bp
42114 43651: conttg of 1538 bp in length
43552 43751: gap of 100 bp
43752 44775: conttg of 1024 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone_lib="RPCI-11 Human Male BAC"
1. .36680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note≂"assembly_fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="RP11-359A12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       vector_side:left"
36781. .38091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /chromosome="8"
/map="8"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  39417 39516:
39517 4056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             43752 44776 44875:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44876
```

```
This entry has been annotated with sequence quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                               31467
38825
38925
48609
48709
67137
67237
138506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 166897
166997
197032
197132
                                                                                                                                                                                                                                                                                                                                                      14369
16330
                                                                                                                                                                                                                                                                                                                                                                                      16430
                                                                                                                                                                                                                                                                                                                                                                                                                           21121
31367
                                                                                                                                                                                                                                                                                                                                    14269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63313 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                          AF235101 214696 bp DNA linear HTG 26-JUL-2002 Homo sapiens chromosome 8 clone CTD-2571K21 map 8q, WORKING DRAFT SEQUENCE, 11 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                        5439 GCTAATGTTTGTATTTTTAGTAGAATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAA 5498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 214696)

Nen,G., Baumgart,C., Blechschmidt,K., Dette,M., Jahn,N., Lehmann,R., Menzel,U., Polley,A., Reichwald,K., Schilhabel,M.B., Schudy,A., Siddiqui,R., Taudien,S., Rosenthal,A. and Platzer,M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (16-FBB-2000) Genome Analysis, Institute of Molecular Biotechnology, Beutenbergstrasse 11, Jena 07745, Germany on Oct 14, 2001 this sequence version replaced gi:14329032.

Center: Institute of Molecular Biotechnoloy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 (bases 1 to 214696)
Blechschmidt,K., Wen,G., Schilhabel,M., Baumgart,C., Menzel,U.,
Dette,M., Jahn,N. and Rosenthal,A.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Center clone name: CTD-2571K21
Sequencing vector: M13; 100% of reads
Sequencing vector: M13; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 200056 bases at least Q40
Consensus quality: 206842 bases at least Q30
Consensus quality: 210985 bases at least Q20
Quality coverage: 4.93 x in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                             Length 195661;
                                                                                                                                                                                                                                                           700 others
                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF235101
AF235101.4 GI:16356856
HTGS_PHASE1; HTGS_DRAFT; HTGS_CANCELLED.
HOMO SAPIENS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Web site: http://genome.imb-jena.de/
Contact: gscj-submit@genome.imb-jena.de
                                                                                                                                                                                                                                                                                                               DB 2; Le
5.3e-28;
                                                                                                                                                                                                                                        vector_side:right"
59915 a 40215 c 39680 g 55151 t
                                                                                  /note="assembly_fragment"
42114 .43651
/note="assembly_fragment"
43752 .44775
/note="assembly_fragment"
44876 .195661
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                             1.3%; Score 73; DB 100.0%; Pred. No. 5.3 tive 0; Mismatches
                 'note="assembly_fragment"
19517. .40566
                                                   /note="assembly_fragment"
40667. .42013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Center project name: H360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence Quality Assessment:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Center code: IMB
                                                                                                                                                                                                                         clone_end:T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   51169 ACTCCTGACCTCA 51181
                                                                                                                                                                                                                                                                                                                                                                                                                                                               5499 ACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                  73; Conservative
                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished
misc_feature
                                    misc_feature
                                                                       misc_feature
                                                                                                         misc_feature
                                                                                                                                                misc_feature
                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                           BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
AF235101
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                             ORIGIN
```

q ò qq

```
ö
estimates computed by the Phrap assembly program.
All manually edited bases have been reduced to quality 10.
Quality levels above 40 are expected to have less than
1 error in 10,000 bp.
Base-by-base quality values are not generally visible from the
GenBank flat file format but are available as part
of this entry's ASN.1 file.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                              * NOTE: This is a 'working draft' sequence. It currently consists of 11 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as * runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence * as soon as it is available and the accession number will * be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 214696;
                                                                                                                                                                                                                                                                                                                               8: contig of 14268 bp in length
9: contig of 1961 bp in length
9: contig of 1961 bp in length
0: contig of 4591 bp in length
0: gap of unknown length
0: contig of 10246 bp in length
0: contig of 7358 bp in length
4: gap of unknown length
4: gap of unknown length
8: contig of 5884 bp in length
8: gap of unknown length
9: contig of 1848 bp in length
9: contig of 1848 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1000 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gap of unknown length
contig of 28291 bp in length
gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of 71269 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown length
of 30035 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig of 17565 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.3%; Score 73; DB 2; L
100.0%; Pred. No. 5.3e-28;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone="CTD-2571K21"
42897 c 42987 g 64499 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Search completed: June 19, 2003, 17:42:00 Job time : 13765 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      172355 ACTCCTGACCTCA 172367
                                                                                                                                                                                                                                                                                                                                                                                                                    21020:
21120:
31366:
31466:
38824:
48608:
                                                                                                                                                                                                                                                                                                                                   14268:
                                                                                                                                                                                                                                                                                                                                                       14368:
16329:
16429:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            67236:
138505:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              166896:
166996:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           67136:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  197031:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        197131:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     48708:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      138605:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              214696:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5499 ACTCCTGACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .214696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 100. Matches 73; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /map="8q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      =
=
=
=
=
```

•	
	-

```
(without alignments)
11594.322 Million cell updates/sec
                                                                                                                                                                                                              5514
1 acagacgaatacatggtcca......tcaaactcctgacctcagag 5514
                                                                                                                June 19, 2003, 00:37:34; Search time 1071 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                  4370478
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                   2185239 seqs, 1125999159 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Listing first 45 summaries
                                                                           OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                         OLIGO_NUC
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                     length: 0
length: 2000000000
                                                                                                                                                                                              US-09-966-880A-9
                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                              Perfect score:
                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                         Word size :
                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                Run on:
```

## N\_Geneseq\_101002:\* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description	Human activation-i Human activation-i DNA encoding novel Human activation-i Human activation-i CDNA encoding huma Human prostate exp Human prostate exp
UMMARIES	5313 5313 5339 5315 5315 7689 7192
0)	AAC55313 AAC55313 AAC81193 AAC55315 AAC55312 ABK52229 ABV57689 AAL07192
DB	22 22 23 25 25 25 25 25 25 25 25 25 25 25 25 25
% Query Match Length DB ID	2818 1272 772 87 2818 12718 539 84
% Query Match	100.0 86.5 2.1 1.6 1.6 1.3
Score	5514 4731 118 87 87 71 69
Result No.	426456786
<b>&amp;</b>	. 0 000

Human nervous syst Human immune/haema		ruman immune/naema Human immune/haema		Human immune/haema	Human nervous syst	Human cDNA clone (	Human colon cancer	Human reproductive	Human testicular a	Human cDNA sequenc	Human immune/haema	Human immune/haema		Human ABC1 gene ex	Human musculoskele	Human immune/haema	Human ABC1 gene, p	Human musculoskele	Human immune/haema	Human retroviral s	Human deoxycytidyl	Human immune/haema												
ABA14482 AAK80307	AAK66840	AAK68878	AAK70059	AAK72514	AAK72808	AAK72892	AAK80869	AAK83523	AAK85680	AAK66827	ABA18403	AAH10398	ABQ57438	AAL02996	ABL97343	AAH17521	AAK85238	AAK72236	AAK79330	AAC69133	AAL36019	AAK72237	AAK79332	AAK80305	AAK80306	AAK65237	AAK84781	AAS04033	AAL36020	AAK69721	ABN97976	AAT71699	AAK66230	
22	22	7.7	22	22	22	22	22	22	22	22	22	22	24	22	23	22	22	22	22	21	22	22	22	22	22	22	22	22	22	22	21	18	22	
121	141	141	141	141	141	141	141	141	141	191	481	266	909	1160	1160	1607	3015	3780	3780	4736	5930	7232	7232	9139	9139	9723	11426	11754	16086	16086	16869	20303	23580	
1.2	1.2	7.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
67	67	67	67	67	67	29	29	67	29	67	67	67	29	29	29	29	67	29	29	67	29	29	29	29	29	29	29	29	67	67	29	29	29	
10	12	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	59	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
00	O	O	υ	υ		O	υ		O	O			O			O					υ			υ	O		υ		υ		O		O	

## ALIGNMENTS

BP.

AAC55313 standard; DNA; 5514

RESULT 1 AAC55313

AAC55313;

Activation-induced cytidine deaminase; AID; cytidine deaminase; immune related disease; allergy, allergic disease; antiallergic; entiallergic; antianemic; antiasthmatic; ophthalmological; anti-HIV; dermatological; gene therapy; B cell associated immune system disorder; food allergy; immunodeficiency disease; immunoglobulin A deficiency disease; asthma; graf nephritis; gamma-qlobulinaemia; atopic dermatitis; allergic collitis; drug allergy; allergic thinitis; Rosen disease; biGeorge disease; AIDS; ataxia telanglectasia; common variable immunodeficiency disorder; Human activation-induced cytidine deaminase genomic DNA SEQ ID NO:9. major histocompatibility class II deficiency disease; auto immunodeficiency syndrome; IgG subclass selection disorder; ds. 99JP-0087192. 99JP-0178999. 99JP-0371382. 28-MAR-2000; 2000WO-JP01918 (first entry) WO200058480-A1. 29-MAR-1999; 24-JUN-1999; 27-DEC-1999; 05-FEB-2001 Homo sapiens. 05-OCT-2000. 

```
The present invention describes an activation-induced cytidine deaminase

(AID). AID structurally relates to an RNA editing enzyme APOBEC-1 and
has cytidine activity similar to APOBEC-1. AID has antiallergic,
antianemic, antiasthmatic, ophthalmological, anti-HIV and
dermatological activities, and can be used in gene therapy. AID
cermatological activities, and can be used in gene therapy. AID
creatment of B cell associated immens system disorders, immunodeficiency
diseases and allergies, such as immunoglobulin A (IBA) deficiency
disease, IgA nephritis, gamma-globulinaemia, atopic dermatitis, allergic
colitis, asthma, food allergy, drug allergy, allergic rhinitis, Rosen
disease, Discorge disease, ataxia telangiectasia, common variable
immunodeficiency disease, AIDS (auto immunodeficiency syndrome), elevated
IgE disorder, and IgG subclass selection disorder. The DNA sequences
encoding AID may be used for gene therapy and the antibodies to the AID
protein may be used for gene therapy and the antibodies to the AID
protein may be used for diagnosis and treatment of these disorders. The
                                                                                                                                                                                             useful as
                                                                                                                                                                                   Nucleic acid encoding activation induced cytidine deaminase, useful a target for drug development for immune-related diseases including
                                                                                                                                                                                                                                                                           Claim 17; Page 142-145; 174pp; Japanese.
                     (NISB ) JAPAN TOBACCO INC (HONJ/) HONJO T.
                                                                                            Honjo T, Muramatsu M;
                                                                                                                                        WPI; 2000-611715/58
```

Sequence 5514 BP; 1709 A; 1045 C; 1134 G; 1623 T; 3 other;

```
240
                                                                                                                                                                             TCCCTAGCACCTGGCATAGTTTCCATTAACAGTAGGCATGAAGTATCTACTCAGTGAATA 180
                                                                                                                                                                                                          241 TATGAGGACACAAAATTAAAGTCTTTATTTGAAGATCTTAGCCTGTTTTCCAAATTCAG 300
                                                                                                                                                                                                                      TGCAGCCAGTTAGACACTGATTCTGTCTGGTGAAACAAGCATTTTTGTATTTTGGGGGAC 360
                                                                                                                                                                                                                                                              CAAAAATCACTCTTTGGTGTAAATATCTAGTCTTCAAGCAATTCTTGTAATGCAATCAGA 480
                                                                                                                                                                                                                                                                                                                                                        CAAAAATCACTCTTTGGTGTAAATATCTAGTCTTCAAGCAATTCTTGTAATGCAATCAGA 480
                                                                                                                                                                                                                                                                                                                                                                                        09
                                                    1 ACAGACGAATACATGGTCCAAGCTAGGGCTATTGATTTGAAAATCATCAAGGTATAGATG
                                                                                                                                                                 AATAGAATGCATATGGGCTACAGTAGGAGAAATAAAATTTAATAGACCAAGTTC
                                                                                                                                                                                                                                                                                                                                                                              AAGAAAAAATCCATGGTTTGGGAGGCAAAATTTTTGTGTTCTAAATTCTATAACTGA
                        Gaps
                      0;
100.0%; Score 5514; DB 21; Length 5514; 100.0%; Pred. No. 0; ive 0; Mismatches 0; Indels 0;
       Best Local Similarity 100.
Matches 5514; Conservative
 Query Match
                                                                                61
                                                                                                    61
                                                                                                                        121
                                                                                                                                                                  181
                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                    421
                                                           q
                                         ò
                                                                               à
                                                                                                    셤
                                                                                                                       ò
                                                                                                                                          qq
                                                                                                                                                                 ð
                                                                                                                                                                                  g
                                                                                                                                                                                                          à
                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                        g
```

Qy	541	GTTCATTTGCTTAACTGCAAAGCAGGAGCTGCTAGTGCCTGTCTGT	00
Qy	0	GACTGTGGGAATATGGGGGAATTAGAGGCTATCTGAGGCTCTTCAACACAATAACCCAA 6	09
qq	601		
Qy	661	AAGGTATTTACATAAATATTACTATTCTCATTGTGCTTT 7	
QQ	661	AAGCTATTTAAATGCTCTTTAAGGTATTTACATAAATATTACTATTCTCATTGTGCTTT 7	20
ογ	721	RATTGAAGTGTCTACTGTTACTGCCTCCTGATCTTTGC 7	80
qq	721	ATTTGTGTTATCATGATTATAATTGAAGTGTCTACTGTTACTGCCTCCTGATCTTTGC 7.	
οy	781	TAGCTATGGAGCATGGACTGGGCTTTTAGAGCAGCCCCCAAAGGAACCTAAACATTAA 84	4
qa	781	SCTATGGAGCATGGACTGGGCTTTTAGAGCAGCAGCCCCAAAGGAACCTAAACATTAA	40
Qy	841	SAGCTGCCCTCAATGGTTTAACCTGTGACTCTGCCTATGACCACCCCACCCA	00
QQ	841	SAGAGCTGCCCTCAATGGTTTAACCTGTGTGACTCTGCCTATGACAGCCCCACCCA	0
δλ	901	ITCACTGGATCCAAATCAGGAGCAAGGCCGTTGGGGTACCTGGTGGGGGTGATGCT 9	9
QQ	901	CTTCACTGGATCCAAATCAGGAGCAAGGCCGTTGGGGTACCTGGTGGGGGGGTAGCT 9	
Οy	961	TCAAATTTGAATGTGAAGGGCCAATGCACTGT 1	020
qa	961	CAGGGGAGGCCCAAAAGGGCAAGCTCAAATTTGAATGTGAAGGCCCAATGCACTGT 1	C
ΟŊ	1021	TTAATTGAAGTGAGATTTTTCTGGCCTGAGACTTGCA 1	080
ор	1021	AGACTGAGACAGAGAACCATCATTAATTGAAGTGAGATTTTTTCTGGCCTGAGACTTGCA 1	90
Qy	1081	GGGAGGCAAGAAAGACACTCTGGACACCACTATGGACAGGTAAAGAGGCAGTCTTCTCGTG 11	14
qa		SAGGCAAGAAGACACTCTGGACACCACTATGGACAGGTAAAGAGGCAGTCTTCTCGTG	1.4
Οy	1141	CCTCTCAGAGCAAATCTGAGTAATGAGACTGGTAGCTATCCC 1	200
qa	1141	GTGATTGCACTGGCCTTCCTCTCAGAGCAAATCTGAGTAATGAGACTGGTAGCTATCCC 1	0
Oy	1201	TICTCATGTAACTGTCTGACTGATAAGATCAGCTTGATCAATATGCATATATTT 12	9
qa	1201	TCTCATGTAACTGTCTGACTGATAAGATCAGCTTGATCAATATGCATATATTTT 12	260
ΟŊ	1261	ATTENDED TO THE TOTAL TO	a
qa	1261	IGATCTGTCTCCTTTTCTTCTTCTATTCAGATCTTATACGCTGTCAGCCCAATTCTTTCT	2
Qy	1321	TTTCATGTGGCAAAAGAAGTAGTGCGTACAATGT 13	89
qa	1321	TCAGACTTCTCTTGATTTCCCTCTTTTTCATGTGGCAAAGAAGTAGTGCGTACAATGT 13	8
Qy	1381	STCCTGAGATTTGTACCATGGTTGAAACTAATTTATGGTAATAATATTAACA 14	440
qa	1381	SATTCGTCCTGAGATTTGTACCATGGTTGAACTAATTTATGGTAATAATAATAAAACA 14	440
Qy	1441	TAGCAAATCTTTAGAGACTCAAATCATGAAAAGGTAATAGCAGTACTGTACTAAAAACGG 15	200
Dp	1441	AGCAAATCTTTAGAGACTCAAATCATGAAAGGTAATAGCAGTACTTTTTTTT	200
Οy	1501	TIGIAAATATTCAACAGTAAAACAACTTGAAGACACA 15	260
qa	1501	AGTGCTAATTTTCGTAATATTTGTAAATATTCAACAGTAAAACAACTTGAAGACACA 15	260
Qy	و	AATAATTTAGCTATAGTAAGAAAATTTGTAATTTTAG 16	620
QQ	1561	TTTCCTAGGGAGGCGTTACTGAAATAATTTAGCTATAGTAAGAAAATTTGTAATTTTAG 16	~

Page 3

	2941 CTCATCTACACAGCCCAGGAGGTAAGTTAATATAAGGAGGATTTATTGGTAAGAGATGA 3000	AGTAATGKTGGTTGGTACTATGGTAATTACCATAAAATTAWTATCCTTTTAAAATAAG [	AAAAGACAATCTCACCCTGTTACCCAGGCTGGAGTGCAGTGGTGCAATCATAGCTTTCTG	3361 ACACTCATCACCACTCACCTTAGGATCCATTTAGATTAGATTAGATTAGAT 3420  3361 ACACTCATCACCACTCACCATCTGGATCCATTTAGATTAAAATATCCATTTAAA 3420  3421 ATTTAAAATAACCATTTACCTTATCTAATCTGATAACTGTAATAAAATCTAG 3480  3421 ATTTAAAATAATTTACCTTATCTAATGTAATGTGATACTGGTAATAAAATCTAG 3480  3421 ATTTAAAATAATAAGTGCTAATTTACCTTATGTAATGTGATACTGGTAATAAAATCTAG 3480  3481 ATTTAAAAATAAAGTGCTAATTTACCTAATGTGAATACTGGTAATAAAATCTAG 3480	3481 TTTGCTGCCTAAAGTTTAAAGTGCTTTCCAATAAGCTTCATGTACGTGAGGGGAGCATT 3540 3541 TAAAGTGAAAGGTTAAAGTGCTTTCCAATAAGCTTCATGTACGTGAGGGGAGCATT 3540 3541 TAAAGTGAAACAGACCAGGTGTGGTGGCTCCACGCCTGTAATCCCAGCACTCTGGGAG 3600 3541 TAAAGTGAAACAGACAGCCAGGTGTGGTGGCTCCACGCCTGTAATCCCAGCACTCTGGGAG 3600 3601 GCTGAGGTGGTGGATGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAA 3600 3601 GCTGAGGTGGTGGTGTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAA 3600 3601 GCTGAGGTGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGCAACATGGCAA 3600	361 AACCCTGTTTCTATAACAAAATTAGCCGGGCATGGTGGCATGTGCCTGTGGTCCCAGCT 3720
4 6 6 6 6	\( \frac{1}{2} \)	OY Db OY Db	oy do oy		90 0y 0y	\( \delta \)
09   1621 AAATGCCAAGCATTCTAAATTAATTGCTTGAAAGTCACTATGATTGTGTCCATTATAAGG 1680	Oy         1861 CATAGAACTTATTCTACTACATTATGATTACTATGGATGTATGGATGAATAACACCTA 1920           Db	AAGTCCTGGCCCAAGCGATCCTCCTGGCCTCCTAAAGTCCTGGAATTATAGACAT		TGGAAAGCAAAGGTAAAATCAGCAGTTGAAATTCAGAGAAAGACAGA		GTCAGCCTGCAAGCCTGAAACACTCCCTCGGTAAAGTCCTTGCTACTACT ACGAGAACAGGGAGCTGGAAACAGCCCCTAACCAGAAGAAGGGAAGT IIIIIIIIIIIIIIIIIIIIIIIII

```
481 GAGACTTGCAGGGAGGCAAGAAGACACTCTGGACACCACTATGGACAGGTAAAGAGGCAG 540
       g
                                                                                                                                                                                                                                                                                                                                               The present invention describes an activation-induced cytidine deaminase

(AID). AID structurally relates to an RNA editing enzyme APOBEC-1 and
has cytidine activity similar to APOBEC-1. AID has antiallergic,
antianaemic, antiasthmatic, ophthalmological, anti-HIV and
antianaemic, antiasthmatic, ophthalmological, anti-HIV and
dermatological activities, and can be used in gene therapy. AID
colvinciented of B cell associated immune system disorders, immunodeficiency
diseases and allergies, such as immunoglobulin A (IBA) deficiency
disease, IgA nephritis, gamma-globulinaemia, atopic dermatitis, allergic
collitis, asthma, food allergy, drug allergy, allergic rhinitis, Rosen
collitis, asthma, food allergy, drug allergy, allergic rhinitis, Rosen
limunodeficiency disease, ataxia telangiectasia, common variable
limunodeficiency disease, AIDS (auto immunodeficiency syndrome), elevated
Il deficiency disease, AIDS (auto immunodeficiency syndrome), elevated
Il deficiency disease, allergis selection discorder: The DNA sequences
encoding AID may be used for gene therapy and the antibodies to the AID
protein may be used for diagnosis and treatment of these disorders. The
                                                                                                                                                                                                            Nucleic acid encoding activation induced cytidine deaminase, useful as a target for drug development for immune-related diseases including allergies -
                                                                                                                                                                                                                                                                                                     Claim 17; Page 163-170; 174pp; Japanese.
  99JP-0371382.
                                              (NISB ) JAPAN TOBACCO INC. (HONJ/) HONJO T.
                                                                                                                      Muramatsu M;
                                                                                                                                                                  WPI; 2000-611715/58
  27-DEC-1999;
                                                                                                                    Honjo T,
```

Sequence 11204 BP; 3305 A; 2273 C; 2373 G; 3253 T; 0 other;

	0; 0	2AC 650	:AC 60	TC 710	11) CTC 120	rcc 770	11 rcc 180	ACC 830	ACC 240	AGC 890	AGC 300	166 950	TGG 360	scc 1010	3CC 420	cr 1070	11 2CT 480	AG 1130
11204;	0; Gaps	AGGTTCAGAGAGACTGTGGGAATATGGGGGAATTAGAGGCTATCTGAGGCTCTTCAACAC	AGGTTCAGAGAGACTGTGGGAATATGGGGGAATTAGAGGCTATCTGAGGCTCTTCAACAC	AATAACCCAAGAAGCTATTAAATGCTCTTTAAGGTATTTACATAATATTACTATTCTC	AATAACCCAAGAAGCTATTAAATGCTCTTTAAGGTATTTACATAAATATTACTATTCTC	ATTGTGCTTTTATTTGTGTGTTATCATGATTATAATTGAAGTGTCTACTGTTACTGCCTCC	ATTGTGCTTTTATTTTGTGTTATCATGATTATAATTGAAGTGTCTACTGTTACTGCCTCC	TGATCTTTGCTAGCTATGGAGCATGGACTGGGCTTTTAGAGCAGCAGCCCCAAAGGAACC	TGATCTTTGCTAGCTATGGACCATGGACTTGGGCTTTTAGAGCAGCCCCCAAAGGAAC	TAAACATTAAAGCAGAGCTGCCCTCAATGGTTTAACCTGTGTGACTCTGCCTATGACAGC	TAAACATTAAAGCAGAGCTGCCCTCAATGGTTTAACCTGTGTGACTCTGCCTATGACAGC	CCCACCCACCCATCTTCACTGGATCCAAATCAGGAGCAAGGCCGTTGGGGTACCTGGTGG	CCACCCACCCATCTTCACTGGATCCAAATCAGGAGCAAGGCCGTTGGGGTACCTGGTGG	GGGTGATGCTGTCAGGGGAGCCCAAAAGGGCAAGCTCAAATTTGAATGTGAAGGGCC	GGGTGATGCTGTCAGGGGAGGAGGAGCCCAAAAGGGCAAGCTCAAATTTGAATGTGAAGGGCC	AATGCACTGTCAGACTGAGACAGAGAGCGATCATTAATTGAAGTGAGATTTTTCTGGCCT	AATGCACTGTCAGACTGAGACAACCATCATTAATTGAAGTGAGATTTTTTCTGGCCT	GAGACTTGCAGGAGGCAAGAAGACACTCTGGACACCACTATGGACAGGTAAAGAGGCAG
	Indels	CTATCTGA	CTATCTGA	TACATAAA	TACATAAA	GTGTCTAC	GTGTCTAC	AGCAGCAG	AGCAGCAG	TGTGACTC	TGTGACTC	GGCCGTTG	GGCCGTTG	CAAATTTG	CAAATTTG	GAAGTGAG	GAAGTGAG	TATGGACA
DB 2	es 3;	ATTAGAGO	AATTAGAGG	TAAGGTAT	TAAGGTATI	TAATTGA	TAATTGAA	SCTTTTAC	GCTTTTAG	TTAACCTC	TTAACCTC	PAGGAGCAP	AGGAGCAP	SGCAAGCT	GGCAAGCT	CATTAAT	CATTAATT	GACACCAC
Score 4771; Pred. No. 0;	U; Mismatches	AATATGGGGG	AATATGGGGG	AAATGCTCTT	AAATGCTCTT	TATCATGATTA	TATCATGATTA	GCATGGACTGC	GCATGGACTGG	CCCTCAATGGT	CCCTCAATGGT	GGATCCAAATC	GGATCCAAATC	GAGCCCAAAAG	GAGCCCAAAAG	CAGAGAACCAI	CAGAGAACCAT	AAGACACTCTG
8 8 7.		AGACTGTGGG	AGACTGTGGG	GAAGCTATT	GAAGCTATT	TATTTGTGT	TATTTTGTGT	TAGCTATGGA	TAGCTATGGA	AGCAGAGCTG	AGCAGAGCTG	CATCTTCACT	CATCTTCACT	STCAGGGGAGG	GTCAGGGGAG	CAGACTGAGA	CAGACTGAGA	GGGAGGCAAG
imilarity	; conservative	AGGTTCAGAG	AGGTTCAGAG	AATAACCCAA	AATAACCCAA	ATTGTGCTTT	ATTGTGCTTT	TGATCTTTGC	TGATCTTTGC	TAAACATTAA	TAAACATTAA	CCCACCCACC	CCCACCCACO	GGGTGATGCT	GGGTGATGCT	AATGCACTGT	AATGCACTGT	GAGACTTGCA
Query Match Best Local Similarity	rcnes 4921	591	1	651	61	711	121	771	181	831	241	891	301	951	361	1011	421	1071
982	Σ	ΟŸ	qq	οy	qq	Qy	qq	οy	đ	οý	QQ	Οy	q	οy	qq	٥y	qq	Qy

QQ	481	GAGACTTGCAGGGAGGCAAGAAGACACTCTGGACACCACTATGGACAGGTAAAGAGGCAG	540
Qy	1131	CTTCTCGTGGGTGATTGCACTGGCCTTCCTCAGAGCAAATCTGAGTAATGAGACTGG	1190
qa	541	TCTTCTCGTGGGTGATTGCACTGGCCTTCCTCTCAGAGCAAATCTGAAAAGAAGACTGG	009
Qy	91	TAGCTATCCCTTTCTCTCATGTAACTGTCTGACTGATAAGATCAGCTTGATGATATGCA	~
qa	601	AGCTATCCCTTTCTCTCATGTAACTGTCTGACTGATAAGATCAGCTTGATCAATATGCA	099
Qy			m
qa	661	TATATTTTTGATCTGTCTCTTTTCTTTTTCATTCATCTTATACGCTGTCAGCCCAA	720
ΟŽ	11	TTCTTTCTGTTTCAGACTTCTCGTTTTCCCTCTTTTTCATGTGGCAAAAGAAGTAGTG	Ċ.
QQ	721	CTTTCTGTTTCAGACTTCTCTTGATTTCCCTCTTTTTCATGTGGCAAAAGAAGTAGTG	780
oy 4		CGTACAATGTACTGATTCGTCCTGAGATTTGTACCATGGTTGAACTAATTTATGGTAAT	4 4
g ;	19/	ATGIACTGATTCGTCCTGAGATTTGTACCATGGTTGAAACTAATTTATGGTAATTATAGTAATTAAT	÷ ÷
Š i	T .	AATATTAACATAGCAAATCTTTAGAGACTCCAAATCATGAAAAGGTAATAGCAGTACTGTA	<u> </u>
gn	<b>7</b>	AACATAGCAAATCTTTAGAGACTCAAATCATGAAAAGGTAATAGCAGTACTGTA	9
ΟΥ Db	1491	CTAAAAACGGTAGTGCTAATTTTCGTAATAATTTTGTAAATATTCAACAGTAAAAAACG 	1550 960
δ	1551	AAGACACACTTTCCTAGGGAGGCGTTACTGAAATAATTTAGCTATAGTAAGAAAATT	
qa	ō		~
QY	1611	AATITTAGAAATGCCAAGCATTCTAAATTAATTGCTTGAAAGTCACTATGATTCTGTC	1670
qa	1021		1080
Qy	1671	CATTATAAGGAGACAAATTCATTCAAGCAAGTTATTAATGTTAAAGGCCCAATTGTTAG	1730
Db	1081	AGACAAATTCATTCAAGCAAGTTATTTAATGTTAAAGGCCCAATTGTTAG	1140
Qy	1731	TAATGGCACTTTTACTATTAACTAATCTTTCCATTTGTTCAGACGTAGCTTAACT	1790
qq	1141	STTAATGGCACTTTTACTATTAACTAATCTTTCCATTTGTTCAGACGTAGCTTAACT	1200
QY	1791	TGTGAATTTGGTTAAGGTCCTCATAATGTCTTTATGTGCAGTTTTTGAT	1850
Db	1201		1260
QY	1851	AGGTTATTGTCATAGAACTTATTCTATTCTACATTTATGATTACTATGGATGG	1910
qq	1261	THATTGTCATAGAACTTATTCTATTCCTACATTTATGATTACTATGGATGTATGAGA	1320
QY	1911	ATAACACCTAATCCTTATACTTTACCTCAATTTAACCTCCT	1970
QQ	1321	TAACACCTAATCCTTATACTTTACCTCAATTTAACTCCTTTATAAAGAACTTACATTAC	1380
. Оу	1971	GAATAAAGATTTTTTAAAAATATATTTTTTGTAGAGACAGGGTCTTAGCCCAGCGG	2030
qq	1381	AAAGATTTTTAAAATATATTTTTTTTTTTAAGACAGGGTCTTAGCCCAGCCGAG	1440
QY	2031	GCTGGTCTCTAAGTCCTGGCCCAAGCGATCCTCCTGCCTG	2090
qa	1441	CTGGTCTCTAAGTCCTGGCCCAAGCGATCCTCCTGCCTGGGCCTCCTAAAGTGCTGGAA	1500
Οy	2091	FATAGACATGAGCCATCACATATACAGAATAAAGATTTTTAATGGAGATTTAA	2150
qq	1501	atagacatgagccatcacatatacagaataaagattttaatggaggtttaa	1560
δλ	51	GITCITCAGAAAATITTCITGAGGTCAGACAATGTCAAAAGTCICCTCAGITTACACTG	2210
qa	1561	CTTCAGAAAATTTTCTTGAGGTCAGACAATGTCAAATGTCTCCTCAGTTTACACTG	1620

291 TAGCTTTCTGCAGTCTTGAACTCCTGGGCTCAAGCAATCCTCCTGCCTTGGCCTCCCAAA 335	341	3411 GCATTTTAAATTTTAAAATAATGGCTAATTTTTACCTTATGTAATGTGTATACTGGTA 3470 	353	35	3591 ACTCTGGGAGGCTGAGGTGGATCGCTTGAGCCCTGGAGTTCAAGACCAGCCTGAGC 3650 111111111111111111111111111111111111	AACATGGCAAAACCCTGTTTCTATAACAAAATTAGCCGGGCATGGTGGCATGTGCCTGT 371 	3711 GGTCCCAGCTACTAGGGGCTGAGGCAGGAGAATCTTTGGAGCCCAGGAGGTCAAGGCTG 3770 11111111111111111111111111111111111	383	3831 AAAAAATTAAGAAAAATTAAAAATAGAAACAACTACAAAGAGCTGTTGTCCTA 3890 	395	3951 CCTGCACTACATTATTAAAATATCAATGTCTCAATGTATATCCACACAAGACTGGTACGT 4010 1111111111111111111111111111111111	4011 GAATGTTCATAGTACCTTTATTCACAAAACCCCAAAGTAGAGACTATCCAATC 4070 	413 354	4131 ACAAAGGAAGAAGCTACTTGGGGATGAATCCCAAAGTCATGACGCTAAATGAAAGATCA 4190 11111111111111111111111111111111111	4191 GACATGAAGGAGATAATGTATGCCATACGAAATTCTAGAAAATGAAAGTAACTATA 4250 	4251 GTTACAGAAAGCAAATCAGGGCAGGCATAGAGGCTCACACCTGTAATCCCAGCACTTTGA 4310 	4311 GAGGCCACGTGGGAAGATTGCTAGAACTCAGGAGTTCAAGACCAGCCTGGGCAACACGT 4370 111111111111111111111111111111111111	4371 GAAACTCCATTCTCCACAAAAATGGGAAAAAAAGAAAGCAAATCAGTGGTTGTCCTGTGG 4430
da da	Oy Opp	QQ QD	Qy	Oy Db	Oy Oy	Oy Dp	oy da	QY	Oy Db	QY Db	da da	QQ Dp	Qy	yo da	QO	Qy	QQ	0y
Qy 2211 AGATTTTGAAAACAAGTCTGAGCTATAGGTCCTTGTGAAGGGTCCATTGGAAATACTTGT 2270	Qy         2271 TCAAAGTAAAATGGAAAGGTAAAATCAGCAGTTGAAATTCAGAGAAAGAA	7	CCGCT 245	AGCTGT 251         AGCTGT 192	TACTCA 25         TACTCA 19	AAGTAA 263         AGTAA 204	Qy 2631 TGGATCAACAAAGTTAACTAGGATCAGGATCACGCAATTCATTTCACTCGACTGGTA 2690 Db 2041 TGGATCAACAAAGTTAACTAGCAGATCAGATCAACAACAACAAAGTTAAACTAAGATCAAGATCAACAACAAAGTTAAAGATCAAGATCAACAAAGATCAACAAAAGATAAAGATCAAGATCAACAAAAAGATAAAAGATCAAAGATCAAAAAAAA	2691 ACATGTGACAGAACAGTGTAGGCTTATTGTATTTCATGTAGAGTAGGACCCAAAAATC 27 2101 ACATGTGACAGAAACAGTGTAGGCTTATTGTATTTTCATGTAGAGTAGGACCCAAAAATC 21	TTTTC 28	TTCCTTATGATAAGGCTCTCTCTCCACACACACACACACA	AGATTC 293	ATTGG 299	2991 TAAGAGATGATGCTTAATCTGTTTAACACTGGGCCTCAAGAGAATTTCTTTTCTTTTTTTT	ATGCTA 31.	3111 ATATACTAATACTAATGCTTGCTACTATGCTAATTACCATAAAAATTATTTTTTTT	3171 TAAATAAAGCTAATTATTGGATCTTTTTTAGTATTTATTATTATTATTTTATTTT 323	3231 TTGATTTTTAAAAGACAATCTCACCTGTTACCAGGCTGGAGTGCAGTGCAATCA	DD 2041 TIGATTITTAAAAGACAAICICACCCIGITACCCAGGCIGGAGIGCAGIGGAATCA 2700

```
4861 ATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTC 4920
                                                                                                                                                                                                           YT;
                                                       AAS81193 standard; cDNA; 772
                                                                                                                                                                            2000US-0540217.
2000US-0649167.
                                                                                                                                                                30-MAR-2001; 2001WO-US08631
                                                                                (first entry)
                                                                                                                                                                                                            Tang
                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 100.
Matches 118; Conservative
                                                                                                                                                                                                                      WPI; 2001-639362/73.
P-PSDB; ABG17006.
                                                                                                                                                                                                           Drmanac RT, Liu C,
             5514
                                                                                                                                                                                               (HYSE-) HYSEQ INC
                                                                                                                                      WO200175067-A2
                    AGAG
             AGAG
                                                                                                                                                                            31-MAR-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                            biodiversity
                                                                                                                           Homo sapiens
                                                                               13-FEB-2002
                                                                                                                                                   11-0CT-2001
            5511
                        4921
                                                                    AAS81193;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                 AAS81193/c
                                                                                                               food
                                                                                            DNA
                                           RESULT 3
            οy
                        g
                                                                    3900
                                           4550
                                                                    4610
                                                                                           4670
                                                                                                        4080
                                                                                                                    4730
                                                                                                                                4140
                                                                                                                                             4790
                                                                                                                                                         4200
                                                                                                                                                                     4850
                                                                                                                                                                                  4260
                                                                                                                                                                                              4910
                                                                                                                                                                                                          4320
                                                                                                                                                                                                                       4970
                                                                                                                                                                                                                                  4380
                                                                                                                                                                                                                                              5030
                                                                                                                                                                                                                                                           4440
                                                                                                                                                                                                                                                                       5090
                                                                                                                                                                                                                                                                                    4500
                                                                                                                                                                                                                                                                                                5150
                                                                                                                                                                                                                                                                                                                        5210
                                                                                                                                                                                                                                                                                                                                     4620
                                                                                                                                                                                                                                                                                                                                                 5270
                                                                                                                                                                                                                                                                                                                                                             4680
                                                                                                                                                                                                                                                                                                                                                                         5330
                                                                                                                                                                                                                                                                                                                                                                                                              4800
                                                                                                                                                                                                                                                                                                                                                                                                                          5450
                                                                                                                                                                                                                                                                                                                                                                                                                                                   5510
                                                                                                                                                                                                                                                                                                                                                                             5390
                                                                                                                                                                                                                                                                                                                                                                                                                                      4860
                                                                                                                                                                    TCTGTATCCTGACTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAAATATTCGTAGAATT
                                                 ATGCATCTTAAATGGGTGGAGTTTACTGTATGTAAATTATACCTCAATGTAAGAAAAAT
                                                                        TTACTTCGCAAATTCTCTGTGCTCTGCCCCGTACCATTAGGTGACAGCACTAGCTCCAC
                                                                                                                          TTATGATATGCAAGACACTGTGCTAGGAGCCAGAAAACAAAGAGAGGAGGAGAAATCAGTCA
                                                                                                                                                                                                                            TTATGTGGGAACAACATAGCAAGATATTTAGATCATTTTGACTAGTTAAAAAAGCAGCAG
                                                                                                                                                                                                                                                     AGTACAAAATCACACATGCAATCAGTATAATCCAAATCATGTAAATATGTGCCTGTAGAA
                                                                                                                                                                                                                                                                              AGACTAGAGGAATAAACACAAGAATCTTAACAGTCATTGTCATTAGACACTAAGTCTAAT
                                                                                                                                                                                                                                                                                                     TATTATTATTAGACACTATGATTTTGAGATTTTAAAAAATCTTTAATATTTTAAAATTTA
                                                                                                                                                                                                                                                                                                                              TTTTTTTTTTTTTTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                GAATGGCATGAYCATAGCTCACTGCAACCTCCTCCTGGGTTCAAGCAAAGCTGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                       CTCAGCCTCCCGGGTAGATGGGATTACAGGCGCCCACCACCACCACCTCGGCTAATGTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                ATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCCTC
                  GGAGGGGAAGGACTCCAAAGAGGGAAGAAGCTCTGGTGGGGTGAGGTGGTGATTCAGGT
                                                                  4551
                                                                              3961
                                                                                          4611
                                                                                                       4021
                                                                                                                              4081
                                                                                                                                                        4141
                                                                                                                                                                                                         4261
                                                                                                                                                                                                                                  4321
                                                                                                                                                                                                                                              4971
                                                                                                                                                                                                                                                                      5031
                                                                                                                                                                                                                                                                                   4441
                                                                                                                                                                                                                                                                                               5091
                                                                                                                                                                                                                                                                                                           4501
                                                                                                                                                                                                                                                                                                                                   4561
                                                                                                                                                                                                                                                                                                                                                            4621
                                                                                                                                                                                                                                                                                                                                                                                                                                                  5451
                                         4491
                                                     3901
                                                                                                                                            4731
                                                                                                                                                                                                                     4911
                                                                                                                                                                                                                                                          4381
                                                                                                                                                                                                                                                                                                                        5151
                                                                                                                                                                                                                                                                                                                                                                                                                         5391
                 4431
                                                                                                                   4671
                                                                                                                                                                                                                                                                                                                                                                        5271
                                                                                                                                                                                                                                                                                                                                                                                                5331
                                                                                                                                                                                             4851
                 ò
                            셤
                                        ò
                                                    g
                                                                  ò
                                                                           g
                                                                                        õ
                                                                                                     g
                                                                                                               ογ
                                                                                                                           a
                                                                                                                                          ò
                                                                                                                                                       g
                                                                                                                                                                   ò
                                                                                                                                                                             q
                                                                                                                                                                                            ò
                                                                                                                                                                                                        q
                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                oy
Oy
                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                      음
```

```
The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polymeressed seed in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving to restore normal activity of (II) or to treat disease states involving a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of stres expressing (II). (I) and (II) are useful in medical imaging of stres expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynuclectide sequences have applications in capponable for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and diagnostic coding sequences of data and products dependent on DNA and diagnostic coding sequences of the invention.

Secuence data for this patent directly from WIPO specification but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                      forensic;
                                                                                                                                                                                                                                                                                                                                                                 therapy; forensic;
genetic disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 772;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             772 BP; 166 A; 204 C; 222 G; 180 T; 0 other;
                                                                                                                                                                                                                                                                        encoding novel human diagnostic protein #16997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2.1%; Score 118; DB 23;
100.0%; Pred. No. 1.2e-32;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                             or chromosome mapping; gene mapping; gene supplement; medical imaging; diagnostic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; SEQ ID No 16997; 103pp; English.
BP.
```

Sequence 87 BP; 28 A; 17 C; 23 G; 19 T; 0 other;

SO

g

q

```
The present invention describes an activation-induced cytidine deaminase

(AID). AID structurally relates to an RNA editing enzyme APOBEC-1 and
has cytidine activity similar to APOBEC-1. AID has antiallergic,
antianaemic, antiasthmatic, ophthalmological, anti-HIV and
dermatological activities, and can be used in gene therapy. AID
dermatological activities, and can be used in gene therapy. AID
treatment of B cell associated immune system disorders, immunodeficiency
diseases and allergies, such as immunoglobulin A (IgA) deficiency
disease, IgA nephritis, gamma-globulinaemia, atopic dermatitis, allergic
colitis, asthma, food allergy, drug allergy, allergic rhinitis, Rosen
disease, DiGeorge disease, ataxia telangiectasia, common variable
immunodeficiency disease, AIDS (auto immunodeficiency syndrome), elevated
IgE disorder, and IgG subclass selection disorder. The DNA sequences
encoding AID may be used for gene therapy and the antibodies to the AID
protein may be used for diagnosis and treatment of these disorders. The
present sequence represents the exon I genomic DNA sequence of human AID.
CCATCTTCACTGGATCCAAATCAGGAGCAAGGCCGTTGGGGTACCTGGTGGGGGGTGATGC 959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                immune related disease; alleggy; alleggic disease; antialized antiantendic, antiathmatic; ophthalmological; anti-HIV; dermatological; gene therapy; B cell associated immune system disorder; food allergy; immunodeficiency disease; immunoglobulin A deficiency disease; asthma; IgA nephritis; gamma-globulinaemia; atopic dermatitis; allergic colitis; duty allergy; allergic rhinitis; Rosen disease; DiGeorge disease; AIDS; ataxia telanglectasia; common variable immunodeficiency disorder; major histocompatibility class II deficiency disease; auto immunodeficiency syndrome; IgG subclass selection disorder; ds.
                                                                                                                                                       TGTCAGGGGAGGAGCCCAAAAGGGCAAGCTCAAATTTGAATGTGAAGGGCCAATGCAC 1017
                                                                                                                                                                                                    as
                                    Nucleic acid encoding activation induced cytidine deaminase, useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a target for drug development for immune-related diseases including allergies -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human activation-induced cytidine deaminase exon 1 SEQ ID NO:11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Activation-induced cytidine deaminase; AID; cytidine deaminase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 18; Page 150; 174pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                         BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-MAR-2000; 2000WO-JP01918.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99JP-0178999
99JP-0371382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99JP-0087192
                                                                                                                                                                                                                                                                                                                                                                                                                                 AAC55315 standard; DNA; 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NISB ) JAPAN TOBACCO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Honjo T, Muramatsu M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-611715/58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (HONJ/) HONJO I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200058480-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24-JUN-1999;
27-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAC55315;
                                                                                                                                                                                                                                                                                                                                                       RESULT
```

```
ö
                                                               1032 AGAGAACCATCATTAATTGAAGTGAGATTTTTCTGGCCTGAGACTTGCAGGGAGGCAAGA 1091
                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                         immune related disease; allergy; allergic disease; antiallergic; antianament; antianatic; ophthalmological; anti-HIV; dermatological; gene therapy; B cell associated immune system disorder; food allergy; immunodeficiency disease; immunoglobulin A deficiency disease; asthma; IgA nephritis; gamma-globulinaemia; atopic dermatitis; allergic colitis; drug allergy; allergic rhinitis; Rosen disease; DiGeorge disease; AIDS; ataxia telangiectasia; common variable immunodeficiency disorder; major histocompatibility class II deficiency disease; auto immunodeficiency syndrome; IgG subclass selection disorder; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence encodes human activation-induced cytidine deaminase (AID). AID structurally relates to an RNA editing enzyme APOBEC-1 and has cytidine activity similar to APOBEC-1. AID has antiallergic, antianaemic, antiasthmatic, ophthalmological, anti-HIV and dermatcological activities, and can be used in gene therapy. AID polynucleotides are useful in methods for identifying drugs for the
                                                                            Nucleic acid encoding activation induced cytidine deaminase, useful a target for drug development for immune-related diseases including
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product- "activation-induced cytidine deaminase"
                                                                                                                                                                                                                                                                                                                                Human activation-induced cytidine deaminase encoding cDNA SEQ ID
                                                                                                                                                                                                                                                                                                                                                             Activation-induced cytidine deaminase; AID; cytidine deaminase;
                                  ö
 Length 87;
                                  Indels
DB 21; L 2.1e-21;
                                0; Mismatches
                                                                                                                         1092 AGACACTCTGGACACCACTATGGACAG 1118
                   ٠
و
                                                                                                                                           Score 87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 3; Page 135-139; 174pp; Japanese.
                   Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
80..676
 1.6%; {
                                                                                                                                                                                                                                    AAC55312 standard; cDNA; 2818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99JP-0087192.
99JP-0178999.
99JP-0371382.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-MAR-2000; 2000WO-JP01918
                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOBACCO INC.
                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Muramatsu M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2000-611715/58.
 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P-PSDB; AAB24198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200058480-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (NISB ) JAPAN
(HONJ/) HONJO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-MAR-1999;
24-JUN-1999;
27-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                05-FEB-2001
                                87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-0CT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      allergies
                                                                                                                                                        61
                                                                                                                                                                                                                                                                   AAC55312;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Honjo T,
                                Matches
                                                                                                                                                                                                                                                                 q
                                                                                                                            ò
                                                                                                                                                        qq
```

```
/*tag= s
/standard_name= "Single Nucleotide Polymorphism (SNP)"
//note= "Polymorphic site 9 (PS9)"
6786..7709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 10 (PS10)"
7710..7876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 12 (PS12)"
replace (8003,C)
                                                                                                                                                                           /*tag= m /*tag= m /*tag= m /*tag= m /*tag= m /*standard_name= "Single Nucleotide Polymorphism (SNP)" //note= "Polymorphic site 7 (PS7)" replace (5988,T)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 11 (PS11)"
7877..8068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 13 (PS13)"
8069..8147
                                                   /standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 5 (PS5)"
                                                                                        /*tag= k
/standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 6 (PS6)"
                                                                                                                                                                                                                                    /standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 8 (PSB)"
6111..6240
/*tag= o
                             replace (3611,A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    replace (6843,T)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /number= 6
replace (7931,C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         replace (8441,T)
/*tag= ad
                                                                           replace (5770,G)
                                                                                                                                                                 replace (5970,T)
                                                                                                                                                                                                                                                                                                                                                                                                               replace (6689, A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         replace (7843,T)
                                                                                                                                                                                                                                                                                                  6241..6438
/*tag= p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8234..8446
/*tag= ac
/number= 8
                                                                                                                           5911..6110
                                                                                                                                                                                                                                                                                                                                                                            6613..6785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= ab
                                                                                                                                                                                                                                                                                                                                         6439..6612
                                                                                                                                                                                                                                                                                                                                                   /*tag= q
/number= 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8148..8233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   >
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /number= 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= u
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag= w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /*tag= x
                 /number-
                                                                                                                                                     /number=
                                                                                                                                                                                                                                                                                        /number=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'number=
                                                                                                                                                                                                                                                                                                                                                                                                   /number=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /number-
                                                                                                                                                                                                                                                                                                                            /number=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /number-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag=
                                                                                                                                                                                                                                                                                                                                                                                       /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag≕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag=
                                           /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         variation
                                                                            variation
                                                                                                                                                                 variation
                                                                                                                                                                                                                variation
                                                                                                                                                                                                                                                                                                                                                                                                               variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           variation
                             rariation
                                                                                                                                                                                                                                                                 intron
                                                                                                                                                                                                                                                                                                                                         intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                intron
                                                                                                                              exon
                                                                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                                                                                                             exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             axon
     ö
                                                                                                                                                                                                             1032 AGAGAACCATCATTAATTGAAGTGAGATTTTTCTGGCCTGAGACTTGCAGGGAGGCAAGA 1091
                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; Cytochrome P450; Subfamily XXVIIA; single nucleotide polymorphism; Stroid 27-Hydroxylase; Cerebrotendinous Xanthomatosis Polypeptide 1; CYP27A1; SNP; drug screening; cerebrotendinous xanthomatosis; chromosome 2q33-qter; gene; ss.
treatment of B cell associated immune system disorders, immunodeficiency diseases and allergies, such as immunoglobulin A (IgA) deficiency disease. IgA nephritis, gamma-globulinaemia, atopic dermatitis, allergic colitis, asthma, food allergy, drug allergy, allergic rhinitis, Rosen disease, DiGeorge disease, ataxia telangiectasia, common variable immunodeficiency disease, AIDS (auto immunodeficiency syndrome), elevated IT deficiency disease, AIDS (auto immunodeficiency syndrome), elevated IGE disorder, and IgG subclass selection disorder. The DNA sequences encoding AID may be used for gene therapy and the antibodies to the AID protein may be used for diagnosis and treatment of these disorders.
                                                                                                                                                                                                                         /standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 4 (PS4)"
3601..5910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /standard_name= "Single Nucleotide Polymorphism (SNP)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 2 (PS2)"
3410..3600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /standard_name= "Single Nucleotide Polymorphism (SNP)"
/note= "Polymorphic site 3 (PS3)"
replace (3592,A)
                                                                                                                                                                                        0; Gaps
                                                                                                                                                                Length 2818;
                                                                                                                                                                                       0; Indels
                                                                                                                                       Sequence 2818 BP; 868 A; 548 C; 626 G; 776 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Polymorphic site 1 (PS1)"
1001..1255
/*tag= b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /*tag c
/product= "Human CYP27Al protein"
1256.3409
                                                                                                                                                            Query Match 1.6%; Score 87; DB 21; Best Local Similarity 100.0%; Pred. No. 1.1e-21; Matches 87; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                             1092 AGACACTCTGGACACCACTATGGACAG 1118
                                                                                                                                                                                                                                                                           61 AGACACTCTGGACACCACTATGGACAG 87
                                                                                                                                                                                                                                                                                                                                                                                                                       cDNA encoding human CYP27A1 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
replace (564,C)
                                                                                                                                                                                                                                                                                                                                        .229/c
ABK52229 standard; cDNA; 12718 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             replace (1342,A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  replace (3564,A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /number= 1
1001 °719
                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'number=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /number=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                13-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              exon
                                                                                                                                                                                                                                                                                                                                      ABK52229,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
  8%888888888%8
                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                     음
                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                    셤
```

(first entry)

```
ABV57689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Óλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SX B
                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to a new human Cytochrome P450, Subfamily XXVIIA, (Steroid 27-Hydroxylase, Cerebrotendinous Kanthomatosis)

CXVVIIA, (Steroid 27-Hydroxylase, Cerebrotendinous Kanthomatosis)

CYDYAPHOLIU Comprises a sequence which is a polymucleotide of the Invention comprises a sequence which is a polymorphic variant for a ceference sequence for the CYP27AH gene or its fragment, or a polymorphic variant of a reference sequence for a CYP27AH cDNA or its fragment.

CYDYMORPHIC VARIANT WITH a candidate agent and assaying for binding activity. The invention is also useful in studying the expression and function of CYP27AH, and in expressing CYP27AH protein for use in soreening for candidate drugs to treat diseases related to CYP27AH correction for use in streaming for candidate drugs to studying expression of the CYP27AH isogenes in vivo, for in vivo screening and testing of drugs targeted against CYP27AH protein, and for testing the efficacy of therapeutic agents and compounds for diseases associated with CYP27AH activity, e.g. CYP27AH protein, and for testing the efficacy of therapeutic agents and compounds for diseases associated with CYP27AH activity, e.g. cerebrotendinous xanthomatosis, in a biological system. The invention is useful for studying the effect of the variation on the biological crust for the cyp27AH and the cyp2AH as well as on the binding affinity of cyp1AH as well as on the binding affinity contacts.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5437 CGGCTAATGTTTGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTC 5496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1932 CGGCTAATGTTTGTTTTTAGTAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCT 1873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present nucleic acid sequence represents the human CYP27Al gene located on chromosome 2q33-qter. This sequence encodes the human CYP27Al protein of the invention.
 /standard_name= "Single Nucleotide Polymorphism (SNP)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  targeting CYP27Al for the treatment of cerebrotendinous xanthomatosis.
                                                                                                                                                                                                                                                                                                                                                   Novel isolated human Cytochrome P450, Subfamily XXVIIA, Steroid 27-Hydroxylase, Cerebrotendinous Xanthomatosis 1 gene, useful for therapeutic purposes, and for studying expression and function of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.3%; Score 71; DB 24; Length 12718; 100.0%; Pred. No. 4.2e-16; 1.1ve 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 12718 BP; 3189 A; 2997 C; 3093 G; 3225 T; 214 other;
          /note= "Polymorphic site 14 (PS14)"
8447..8599
                                                                                                                                                                                                                                                                              Sanchis A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 7
ABV57689/c
ID ABV57689 standard; cDNA; 539 BP.
                                                                                                                                                                                                                                                                              Han J,
                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Fig 1; 90pp; English.
                                                                                                                                                                                                                                                  (GENA-) GENAISSANCE PHARM INC
                                                                                                                                                                                                                     13-OCT-2000; 2000US-239942P.
                                                      /number= 8
8600..8719
/*tag= af
/number= 9
                                                                                                                                                                                        15-OCT-2001; 2001WO-US42727
                                          /*tag= ae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAACTCCTGAC 1862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 100.
nes 71; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5497 AAACTCCTGAC 5507
                                                                                                                                                                                                                                                                             Anastasio AE, Chew A,
                                                                                                                                                                                                                                                                                                        WPI; 2002-435436/46.
                                                                                                                                                                                                                                                                                                                      P-PSDB; AAU97675
                                                                                                                               WO200230952-A2
                                                                                                                                                           18-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                            intron
                                                                        exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
```

```
5442 AATGTTTGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACT 5501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV0010-ABV62213) of the specification or its complement. (I) is useful for:

(a) assessing whether a patient is afflicted with prostate cancer;

(b) monitoring the progression of prostate cancer in a patient;

(c) assessing the efficacy of a test compound to inhibit prostate

cancer in a patient;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         338 AATGITICIATITITAGIAGAGAGGGGTITICACCATGITGGCCAGGCTGGTCTAAACT 279
                                                      Human; prostate cancer; cytostatic; carcinogen; pharmacodyanamic marker; pharmacogenomic marker; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) determining whether prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (d) assessing the efficacy of a therapy for inhibiting prostate cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Gaps

    is also useful as a pharmacodyanamic or pharmacogenomic marker.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 539;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 539 BP; 168 A; 120 C; 133 G; 118 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3.8e-15;
hes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.3%; Score 69; DB 23;
Human prostate expression marker cDNA 57680.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MILL-) MILLENNIUM PREDICTIVE MEDICINE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 100.0%; Pred. No. 3.8 nes 69; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 11091; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Monahan JE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP.
                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-189862P.
2000US-207454P.
2000US-211314P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-219007P.
2000US-255281P.
                                                                                                                                                                                                                                                                                                                                     20-FEB-2001; 2001WO-US05171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAL07192/c
ID AAL07192 standard; DNA; 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schlegel R, Endege WO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5502 CCTGACCTC 5510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            278 CCTGACCTC 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-662795/76
                                                                                                                                                                                                                  WO200160860-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in a patient,
                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                              16-MAR-2000;
25-MAY-2000;
09-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-JUL-2000;
13-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                    17-FEB-2000;
                                                                                                                                                                                                                                                                              23-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAL07192;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             patient
```

```
2000US - 0246475
2000US - 0246477
2000US - 0246477
2000US - 0246477
2000US - 0246523
2000US - 0246523
2000US - 0246525
2000US - 0246525
2000US - 0246525
2000US - 0246526
2000US - 0246526
2000US - 0246627
2000US - 0246610
2000US - 0246611
                20000S - 0233064
20000S - 0234223
20000S - 0234223
20000S - 0234299
20000S - 0235484
20000S - 0235484
20000S - 0235834
20000S - 0235836
20000S - 0235836
20000S - 0236369
20000S - 0237039
                                                                                                                                                                                                                                                                                                                                                                                        20000S-0240960.
20000S-0241221.
20000S-0241785.
20000S-0241787.
2000US-0241809.
2000US-0241809.
2000US-0241826.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0249211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0249216
2000US-0249217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0249218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0249265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0249299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0249300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0251479
2000US-0251856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0249214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0249264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0249297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-NOV-2000;
17-NO
14 - SEP - 2000;
14 - SEP - 2000;
21 - SEP - 2000;
21 - SEP - 2000;
22 - SEP - 2000;
25 - SEP - 2000;
26 - SEP - 2000;
27 - SEP - 2000;
29 - SEP - 2000;
29 - SEP - 2000;
29 - SEP - 2000;
20 - CCT - 2000;
20 - C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-DEC-2000;
05-DEC-2000;
06-DEC-2000;
08-DEC-2000;
   Human; reproductive system related antigen; reproductive system disorder; cancer; gene therapy; ds.
                                                   Human reproductive system related antigen DNA SEQ ID NO: 9880
                                                                                                                                                                                                                                                                              2000US-0179065.
2000US-0180628.
2000US-0184664.
2000US-0186350.
2000US-0189874.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20000S-0216647
20000S-0216880
20000S-021487
2000US-0218290
2000US-0220963
2000US-0220964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20000S-0225268
20000S-022547
20000S-022547
20000S-0225757
20000S-0225759
20000S-0226279
20000S-0226868
20000S-0226868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0227009
2000US-0228924
2000US-0229343
2000US-0229344
2000US-0229345
2000US-0229345
                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0205515.
2000US-0209467.
2000US-0214886.
2000US-0215135.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0225213.
2000US-0225214.
2000US-0225266.
2000US-0225266.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0231243.
2000US-0231244.
2000US-0231413.
2000US-0231414.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0232080.
2000US-0232081.
2000US-0231968.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0232398.
2000US-0232399.
2000US-0232400.
2000US-0232401.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0224518
2000US-0224519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :000US-0229513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0230438
2000US-0231242
                                                                                                                                                                                                                                             17-JAN-2001; 2001WO-US01339
                                                                                                                                                                                                                                                                                                                                                                        2000US-0190076
                                                                                                                                                                                                                                                                                                                                                                                          :000US-0198123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0230437
                (first entry)
                                                                                                                                                                          WO200155320-A2
                                                                                                                                                                                                                                                                                              04 - FEB - 2000;
24 - FEB - 2000;
10 - MAR - 2000;
17 - MAR - 2000;
11 - MAR - 2000;
19 - MAY - 2000;
07 - JUN - 2000;
30 - JUN - 2000;
07 - JUL - 2000;
11 - JUL - 2000;
11 - JUL - 2000;
14 - JUL - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14 - AUG - 2000;
14 - AUG - 2000;
14 - AUG - 2000;
14 - AUG - 2000;
14 - AUG - 2000;
14 - AUG - 2000;
14 - AUG - 2000;
14 - AUG - 2000;
18 - AUG - 2000;
22 - AUG - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JUL-2000;
26-JUL-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23 - AGG - 2000;
30 - AGG - 2000;
01 - SEP - 2000;
01 - SEP - 2000;
01 - SEP - 2000;
05 - SEP - 2000;
06 - SEP - 2000;
06 - SEP - 2000;
08 - SEP - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -SEP-2000;
                                                                                                                                         sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-SEP-2000;
                21-NOV-2001
                                                                                                                                                                                                             02-AUG-2001
                                                                                                                                         Ношо
```

```
2000US-0216880.
2000US-0217487.
2000US-0217496.
                                                                                                                                                                                                                                                    2000US-0225447.
2000US-0225757.
2000US-0225758.
                                                                                                  2000US-0218290
                                                                                                                                          2000US-0224518
                                                                                                                                                                    2000US-0225213
2000US-0225214
                                                                                                                                                                                                                                                                                              2000US-0225759
2000US-0226279
                                                                                                                                                                                                 2000US-0225266
                                                                                                                                                                                                                            2000US-0225268
                                                                                                                                                                                                                                         2000US-0225270
                                                                                                                                                                                                                                                                                                                                       2000US-0226868
                                                                                                                                                                                                                                                                                                                                                    2000US-0227182
                                                                                                                             2000US-0220964
                                                                                                                                                                                                                                                                                                                                                                               2000US-0228924
                                                                                                                                                                                                                                                                                                                                                                                                          0000US-0229343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0000US-0236370
     2000US-0209467
                                                                                                                                                                                                                                                                                                                         2000US-0226681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0230437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0235484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0241785
                                         07-JUL-2000;
07-JUL-2000;
11-JUL-2000;
14-JUL-2000;
26-JUL-2000;
26-JUL-2000;
                                                                                                                                                                                              14 - AUG-2000;
14 - AUG-2000;
14 - AUG-2000;
14 - AUG-2000;
                                                                                                                                                                                                                                                    14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                   22-AUG-2000;
23-AUG-2000;
30-AUG-2000;
01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-SEP-2000;
21-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-OCT-2000;
20-OCT-2000;
                                                                                                                                                                    14-AUG-2000;
                                                                                                                                                                                                                                                                                                                       22-AUG-2000;
22-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-SEP-2000;
05-SEP-2000;
06-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-SEP-2000;
25-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29-SEP-2000;
                    28-JUN-2000;
                                                                                                                                         14-AUG-2000;
                                                                                                                                                                                                                                                                                              14-AUG-2000;
                                                                                                                                                                                                                                                                                                            18-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                          01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                      01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-SEP-2000
08-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                       5505
                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            immunosuppressive, antiinflammatory; anti-HIV; antibacterial; vulnerary; antiparkinsonian; antisickling; antianaemic; antiarthritic; cancer; antirheumatic; hepatotropic; cerebroprotective; antiinflammatory; antiallergic; antiidiabetic; antiinflam; antioniusant; antifungal; antiparasitic; cardiant; immune disorder; cardiovascular disorder; neurological disease; infection; nephrotropic; gene therapy; vaccine; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; nootropic; neuroprotective; cytostatic; dermatological; virucide;
                                                                                                                                                                                                                                                 The present invention provides the protein and coding sequences of a number of human reproductive system related antigens. These can be used in the prevention and treatment of reproductive system disorders, . including cancer. The present sequence is a genomic sequence encoding a protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                   Isolated nucleic acid molecule encoding a reproductive system antigen is used in preventing, treating or ameliorating a medical condition
                                                                                                                                                                                                                                                                                                                                                                                            0; Gaps
                                                                                                                                                                                                                      Disclosure; SEQ ID NO 9880; 1297pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human nervous system related polynucleotide SEQ ID NO 10732.
                                                                                                                                                                                                                                                                                                                                                              1.2%; Score 67; DB 22; Length 84;
100.0%; Pred. No. 2.8e-14;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                    Sequence 84 BP; 28 A; 20 C; 19 G; 17 T; 0 other;
                                                                                                                           Ruben SM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABA18401 standard; DNA; 95 BP
                           2000US-0251989.
2000US-0251990.
2000US-0254097.
2001US-0259678.
                                                                                               (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0190076.
2000US-0198123.
2000US-0205515.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31-JAN-2000; 2000US-0179065.
04-FEB-2000; 2000US-0180628.
24-FEB-2000; 2000US-0184664.
02-MAR-2000; 2000US-0186350.
16-MAR-2000; 2000US-0189874.
  2000US-0251868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-JAN-2001; 2001WO-US01334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-JAN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 67; Conservative
                                                                                                                           Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5506 ACCTCAG 5512
                                                                                                                                                    WPI; 2001-465570/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCTCAG 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200159063-A2.
08-DEC-2000; 2
08-DEC-2000; 2
08-DEC-2000; 2
08-DEC-2000; 2
11-DEC-2000; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-MAR-2000;
18-APR-2000;
19-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-AUG-2001
                                                                                                                           Rosen CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABA18401;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABA18401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
```

11

ö

Gaps ö

Length 95; 0; Indels

DB 22; L 2.7e-14;

```
Human; nootropic; neuroprotective; cytostatic; dermatological; virucide; immunosuppressive; antiinflammatory; anti-HTV; antibacterial; vulnerary; antiparkinsonian; antisickling; antianemic; antiarthritic; cancer; antirheumatic; hepatotropic; cerebroprotective; antiinflammatory; antiallergic; antidiabetic; antiucer; anticonvulsant; antifungal;
in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast and ovarian cancer and other cancers of the adrenal gland, bone, bone marrow, breast, gastrointestinal tract, liver, lung, or urogenital; (b) immune disorders e.g. Addison's disease, allergies, autoimmune thyroiditis, diabetes mellitus, Crohn's disease, multiple sclerosis, rheumatoid arthritis and ulcerative colitis; (c) cardiovascular disorders such as myocardial ischaemias; (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and epilepsy; and (f) infectious diseases such as viral, bacterial, fungal and parastitc infections.

Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                 antiparasitic; cardiant; immune disorder; cardiovascular disorder; neurological disease; infection; nephrotropic; gene therapy; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human nervous system related polynucleotide SEQ ID NO 6813.
                                                                                                                                                                                     Sequence 95 BP; 19 A; 26 C; 22 G; 28 T; 0 other;
                                                                                                                                                                                                    1.2%; Scort
v 100.0%; Pred. No. 4...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                              ABA14482 standard; DNA; 121 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0179065.
2000US-0180628.
2000US-0184664.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0198123.
2000US-0205515.
2000US-0209467.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0186350
2000US-0189874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0190076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0214886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0215135
2000US-0216647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0217496
2000US-0218290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0220963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0217487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0220964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-JAN-2002 (first entry)
                                                                                                                                                                                                                                        67; Conservative
                                                                                                                                                                                                                                                                                                                      5512
                                                                                                                                                                                                                                                                                                                                             84
                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                    5506 ACCTCAG
                                                                                                                                                                                                                                                                                                                                              78 ACCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200159063-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-MAR-2000;
116-MAR-2000;
117-MAR-2000;
118-APR-2000;
07-JUN-2000;
28-JUN-2000;
30-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-JUL-2000;
07-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-FEB-2000;
24-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-AUG-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                        ABA14482;
                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                   ABA14482,
                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to novel genes (ABAl1004-ABA21534) and proteins (ABB14678-ABB18001) useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy. The genes are isolated from a range of human tissues disclosed in the specification. The nucleic acids, proteins, antibodies and (ant)agonists are useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nucleic acids encoding 3224 human nervous system antigen polypeptides, useful for preventing, diagnosing and/or treating nervous system cancers and metastases -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; SEQ ID NO 10732; 1701pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ruben SM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                             2000US-0246611.
                                                      2000US-0241826.
                                                                                                                   2000US-0246476
                                                                                                                                              2000US-0246478
                                                                                                                                                                                     2000US-0246525
                                                                                                                                                                                                                           2000US-0246528
                                                                                                                                                                                                                                        2000US-0246532
                                                                                                                                                                                                                                                                  2000US-0246610
                                                                                                                                                                                                                                                                                           2000US-0246613.
                                                                                                                                                                                                                                                                                                                    2000US-0249208
                                                                                                                                                                                                                                                                                                                               2000US-0249209
                                                                                                                                                                                                                                                                                                                                              2000US-0249210.
                                                                                                                                                                                                                                                                                                                                                        2000US-0249211
                                                                                                                                                                                                                                                                                                                                                                        0000S-0249212
                                                                                                                                                                                                                                                                                                                                                                                    2000US-0249213
                                                                                                                                                                                                                                                                                                                                                                                                  000US-0249214.
                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0249215
                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0249216
                                                                                                                                                                                                                                                                                                                                                                                                                                                    3000US-0249218.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0249244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20000S-0249245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            000US-0249264.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0249265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0000S-0249299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0249300.
2000US-0250391.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0251160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0251988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0000S-0256719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0251479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    000US-0251856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0000US-0251869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0251990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001US-0259678
                            2000US-0241808
                                                                                            20000S-0246474
                                                                                                                                                                                                                                                                                                       2000US-0249207
                                                                                2000US-0244617
                                                                                                                                    2000US-0246477
                                                                                                                                                                                                              2000US-0246527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0249297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0254097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-541565/60.
                         20-0CT-2000;
20-0CT-2000;
20-0CT-2000;
01-0NOV-2000;
08-NOV-2000;
                                                                                                                                                                                                                                                                                                                               17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-DEC-2000;
05-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-DEC-2000;
                                                                                                                                                                                                                                                                                                      17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                       17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                               NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                              NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                           17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    L7 - NOV - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rosen CA,
```

ds.

```
2000US-0234998.
2000US-0235484.
2000US-0235834.
2000US-0235836.
2000US-0236327.
                                                                                                                                                                                                                                                                                                                                    2000US-0232399.
2000US-0232400.
2000US-0233063.
2000US-0233064.
2000US-0233065.
2000US-0234274.
2000US-0234274.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0246474.
2000US-0246475.
2000US-0246476.
                                                                       2000US-0225447.
2000US-0225757.
2000US-0225758.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0237040
                           2000US-0225214
2000US-0225266
                                                                                                   2000US-0225759
                                                                                                                                                                                                                                   2000US-0230438
                                                                                                                                                                                                                                                    2000US-0231243
                                                                                                                                                                                                                                                              000US-0231244
                                                                                                                                                                                                                                                                                       2000US-0232080
                                                                                                                                                                                                                                                                                                           2000US-0231968
2000US-0232397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0236367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0236368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0237037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0241808
                                                                                                                                        2000US-0227182
                                                                                                                                                                    2000US-0229287
                                                                                                                                                                                                                                                                                                                             2000US-0232398
                                              2000US-0225267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-0CT-2000;
02-0CT-2000;
02-0CT-2000;
02-0CT-2000;
13-0CT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20-0CT-2000)
20-0CT-2000)
20-0CT-2000)
20-0CT-2000)
20-0CT-2000)
20-0CT-2000)
20-0CT-2000)
14 - AUG - 2000)
15 - AUG - 2000)
16 - AUG - 2000)
17 - AUG - 2000)
18 - AUG - 2000)
18 - AUG - 2000)
19 - AUG - 2000)
10 - SEP - 2000)
11 - SEP - 2000)
                                                                                                                                                                                                                                                                                                                                             14-SEP-2000;
14-SEP-2000;
14-SEP-2000;
14-SEP-2000;
14-SEP-2000;
21-SEP-2000;
25-SEP-2000;
25-SEP-2000;
25-SEP-2000;
25-SEP-2000;
27-SEP-2000;
27-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-SEP-2000;
29-SEP-2000;
29-SEP-2000;
29-SEP-2000;
29-SEP-2000;
02-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
```

```
2000US - 0246478
2000US - 0246523
2000US - 0246526
2000US - 0246526
2000US - 0246527
2000US - 0246527
2000US - 0246527
2000US - 0246619
2000US - 0246610
2000US - 0246611
2000US - 0246611
2000US - 0249207
2000US - 0249207
2000US - 0249210
2000US - 0249211
2000US - 0249211
2000US - 0249213
2000US - 0249216
2000US - 0249216
2000US - 0249216
                                                                                                                                                                                                   2000US-0249244.
2000US-0249245.
2000US-0249264.
                                                                                                                                                                                                                           2000US-0249265.
2000US-0249297.
2000US-0249299.
                                                                                                                                                                                                                                                          2000US-0250391.
2000US-0251160.
2000US-0251030.
                                                                                                                                                                                                                                                                                                         2000US-0251856.
2000US-0251868.
2000US-0251869.
                                                                                                                                                                                                                                                                                                                                                                        (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                  2000US-0249300
2000US-0250391
                                                                                                                                                                                                                                                                                                                                                        2001US-0259678
                                                                                                                                                                                                                                                                                   0251988
2000US-0246477
                                                                                                                                                                                                                                                                                           20000S
      08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
                                                             08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
                                                                                                                     17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                            17 - NOV - 2000;
17 - NOV - 2000;
17 - NOV - 2000;
                                                                                                                                                                    17 - NOV - 2000;
17 - NOV - 2000;
17 - NOV - 2000;
17 - NOV - 2000;
                                                                                                                                                                                                   17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                          17 - NOV - 2000;
01 - DEC - 2000;
05 - DEC - 2000;
05 - DEC - 2000;
06 - DEC - 2000;
08 - DEC - 2000;
08 - DEC - 2000;
08 - DEC - 2000;
                                                                                                                                                                                                                                                                                                                                                        05-JAN-2001;
                                                                                      08-NOV-2000;
08-NOV-2000;
                                                                                                      NOV-2000;
                                                                                                              17-NOV-2000;
```

Rosen CA, Barash SC, Ruben SM

WPI; 2001-541565/60.

Nucleic acids encoding 3224 human nervous system antigen polypeptides, useful for preventing, diagnosing and/or treating nervous system cancers and metastases

Disclosure; SEQ ID NO 6813; 1701pp + Sequence Listing; English.

The invention relates to novel genes (ABA11004-ABA21534) and proteins (ABB14678-ABB18001) useful for preventing, treating or amellorating medical conditions e.g. by protein or gene therapy. The genes are isolated from a range of human tissues disclosed in the specification. The nucleic acids, proteins, antibodies and (ant)agonists are useful in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast and other cancers of the adready bane, bone marrow, breast, gastrointestinal tract, liver, lung, or urogenital: (b) immune discretes e.g. Addison's disease, alleafyles, autoimmune thyroiditis, diabetes mellitus, Crohn's disease, multiple sclerosis, rheumatoid arthritis and ulcerative colitis; (c) cardiovascular disorders such as myocardial ischaemias; (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and epilepsy; and (f) infections.

```
20000S-0229509.
2000US-0229513.
2000US-0230437.
2000US-0231242.
2000US-0231243.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20000S-0241787
20000S-0241808
20000S-0241808
20000S-024617
20000S-0246474
20000S-0246476
20000S-0246477
20000S-0246477
20000S-0246477
20000S-0246477
20000S-0246477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0246524.
2000US-0246525.
2000US-0246526.
2000US-0246527.
2000US-0246528.
2000US-0246532.
                                                                                                                                                                                     2000US-0231413.
2000US-0231414.
2000US-0232080.
2000US-0232081.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0236327.
2000US-0236367.
2000US-0236368.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0241221.
2000US-0241785.
2000US-0241786.
                                                                  2000US-0229344
2000US-0229345
                                                                                                                                                                                                                                           2000US-0231968
2000US-0232397
                                                                                                                                                                                                                                                                     20000S-0232398
20000S-0232399
                                                                                                                                                                                                                                                                                               2000US-0232400
                                                                                                                                                                                                                                                                                                                         2000US-0233063
2000US-0233064
                                                                                                                                                                                                                                                                                                                                                     2000US-0233065
                                                                                                                                                                                                                                                                                                                                                                2000US-0234223
2000US-0234274
                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0235834
2000US-0235836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0236370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0240960
                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0235484
                                                                                                                                                                                                                                                                                                             2000US-0232401
                                                                                                                                                                                                                                                                                                                                                                                          2000US-0234997
                        30-Aug-2000)
10-SEP-2000)
11-SEP-2000)
10-SEP-2000)
10-SEP-2000)
10-SEP-2000)
10-SEP-2000)
10-SEP-2000)
10-SEP-2000)
10-SEP-2000)
10-SEP-2000)
10-SEP-2000)
11-SEP-2000)
11-SEP-2000]
11-SE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-NOV-2000;
17-NOV-2000;
17-NOV-2000;
    5505
                                                                                                          ó
                                                                                                                                                 Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                   5446 TITGTATTITAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                      Human; immune; haematopoietic; immune/haematopoietic antigen; cancer; cytostatic; gene therapy; vaccine; metastasis; ds.
                                                                                                          0; Gaps
                                                                                                                                                                                                                                                                                                                                                                  Human immune/haematopoietic antigen genomic sequence SEQ ID NO:35119
                                                                              Length 121;
                                                                                                         0; Indels
                                                    Sequence 121 BP; 34 A; 33 C; 31 G; 23 T; 0 other;
                                                                              Query Match
1.2%; Score 67; DB 22; 1
Best Local Similarity 100.0%; Pred. No. 2.6e-14;
Matches 67; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                        307/c
AAK80307 standard; DNA; 132 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0179065.
2000US-0180628.
2000US-0184664.
2000US-0186350.
2000US-0189874.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0205515.
2000US-0209467.
2000US-0214886.
2000US-0215135.
2000US-0216647.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0220964.
2000US-0224518.
2000US-0224519.
2000US-0225213.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0217487.
2000US-0217496.
2000US-0218290.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0226279.
2000US-0226681.
2000US-0226868.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0225214.
2000US-0225266.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0220963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               :0000US-0225268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             00000S-0225270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0198123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0225267
                                                                                                                                                                                                                                                                                                                                     07-NOV-2001 (first entry)
                                                                                                                                                                                      5506 ACCTCAG 5512
                                                                                                                                                                                                       19 ACCTCAG 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200157182-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-MAR-2000;
16-MAR-2000;
17-MAR-2000;
18-APR-2000;
19-MAY-2000;
28-JUN-2000;
30-JUN-2000;
30-JUN-2000;
07-JUL-2000;
07-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11. JUL - 2000;
11. JUL - 2000;
14. JUL - 2000;
26. JUL - 2000;
14. ANG - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-AUG-2000;
22-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09-AUG-2001
                                                                                                                                                                                                                                                                                                            AAK80307;
                                                                                                                                                                                                                                                      RESULT 11
AAK80307/c
ID AAK8C
                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo
  8
                                                                                                                                                          g
                                                                                                                                                                                     ò
                                                                                                                                                                                                            q
```

```
69 ACCTCAG 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200157182-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14 - AUG - 2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-M1 - 2000;
07-JUN-2000;
28-JUN-2000;
30-JUN-2000;
07-JUL-2000;
07-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-AUG-2000;
22-AUG-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-MAR-2000;
18-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-AUG-2000;
18-AUG-2000;
22-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-SEP-2000;
01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-AUG-2000;
                                                                                                                                                                                                                                   06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-AUG-2001
                                                                                                                                                                                  AAK66840;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-SEP-2
                                                                                  RESULT 12
                                                                                                          AAK66840/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAK AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (I)

amino acid sequences given in AAM82170 to AAM91921. (I) have cytostatic
activity, and can be used in gene therapy and vaccine production. (I)
proteins and polynucleotides may be used in the prevention, diagnosis and
treatment of diseases associated with inappropriate (I) expression. For
example, they may be used to treat disorders associated with decreased
expression by rectifying mutations or deletions in a patient's genome
that affect the activity of (I) by expressing inactive proteins or to
supplement the patients own production of (I). Additionally, (I)
coplynucleotides may be used to produce the secreted (I), by inserting
the nucleic acids into a host cell and culturing the cell to express the
protein. (I) proteins and polynucleotides may be used to prevent,
diagnose and treat immune/haematopoietic-related diseases, especially
cancers and cancer metastases of haematopoietic antigen genonic
to AAK87694 represent human immune/haematopoietic antigen genonic
sequences from the present invention. AAK54942 to AAK84950 and AAM82169
crepresent sequences used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5446 TITGTATITITAGIAGAGAIGGGGITITCACCATGITGGCCAGGCTGGTCTCAAACICCTG 5505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; SEQ ID NO 35119; 3071pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.2%; Score 67; DB 22; Length 132; 100.0%; Pred. No. 2.6e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 132 BP; 36 A; 36 C; 37 G; 23 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Barash SC, Ruben SM;
                                                                                                                              2000US-0249214.
2000US-0249215.
2000US-0249216.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0251030.
2000US-0251988.
2000US-0256719.
2000US-0251479.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  05-JAN-2001; 2001US-0259678
                                                      2000US-0249211
                                                                                                                                                                                                         2000US-0249217
2000US-0249218
                                                                                                                                                                                                                                                        2000US-0249244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0251856
2000US-0251868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0251990
                                                                                                                                                                                                                                                                                                                                   2000US-0249265
                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0249300
                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0250160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-483426/52.
17-NOV-2000; 217-NOV-2000; 217
                                                                                                                                                                                                                                                                                                    17-NOV-2000; 2
17-NOV-2000; 2
17-NOV-2000; 2
17-NOV-2000; 2
17-NOV-2000; 2
                                                                                                                                                                                                                                                                                                                                                                                                                              01-08C-2000;
01-08C-2000;
05-08C-2000;
05-08C-2000;
06-08C-2000;
08-08C-2000;
08-08C-2000;
08-08C-2000;
08-08C-2000;
08-08C-2000;
08-08C-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        metastasis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rosen CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
       ð
```

```
Human; immune; haematopoietic; immune/haematopoietic antigen; cancer;
                                         Human immune/haematopoietic antigen genomic sequence SEQ ID NO:21652.
                                                              cytostatic; gene therapy; vaccine; metastasis; ds
AAK66840 standard; DNA; 141 BP.
                                                                                                                                                                                                                        2000US-0216880.
2000US-0217487.
                                                                                                                                                                                                                                                                       2000US-0224519
2000US-0225213
                                                                                                                                                                                                                                                                                                                                                                                                                    20000S-0229345.
20000S-0229509.
                                                                                                                                                                                                                                     2000US-0217496
                                                                                                                                                                                                                                                    2000US-0220963
                                                                                                                                                                                                                                                                  2000US-0224518
                                                                                                                                                                                                                                                                                       2000US-0225214
                                                                                                                                                                                                                                                                                                           2000US-0225268
                                                                                                                                                                                                                                                                                                                         2000US-0225447
2000US-0225757
                                                                                                                                                                                                                                                                                                                                       2000US-0225758
                                                                                                                                                                                                                                                                                                                                               2000US-0225759
                                                                                                                                                                                                                                                                                                                                                     2000US-0226279
                                                                                                                                                                                                                                                                                                                                                                   2000US-0226868
                                                                                                                                                                                                                                                                                                                                                                           2000US-0227182
2000US-0227009
                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0229343
2000US-0229344
                                                                                                                                                                              2000US-0198123
                                                                                                                                                                                                          2000US-0215135
                                                                                                                                                                                                                  2000US-0216647
                                                                                                                                                                                                                                              2000US-0218290
                                                                                                                                                                                                                                                           2000US-0220964
                                                                                                                                                                                                                                                                                              :0000US-0225266
                                                                                                                                                                                                                                                                                                     2000US-0225267
                                                                                                                                                                                                                                                                                                                                                             2000US-0226681
                                                                                                                                                                                                                                                                                                                                                                                        2000US-0228924
                                                                                                                      17-JAN-2001; 2001WO-US01354
                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0229287
                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-SEP-2000;
```

2000US-0231414

ACCTCAG 5512

2506

ò

```
2000US-0241809.
2000US-0241826.
2000US-0244617.
                                                                                                                                                                                                                                                                                                                         2000US-0246474.
2000US-0246475.
2000US-0246476.
2000US-0246477.
2000US-0246477.
                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0246611.
2000US-0246613.
2000US-0249207.
2000US-0249208.
                                                                                                                                                                                                                                                                                                                                                                 2000US-0246523.
2000US-0246524.
2000US-0246525.
                                                                                                                                                                                                                                                                                                                                                                                          2000US-0246526.
2000US-0246527.
2000US-0246528.
                                                                                                                                                                                                                         2000US-0237040.
2000US-0239935.
                                                                                                                                                                                                                                          2000US-0239937.
2000US-0240960.
                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0246609.
2000US-0246610.
                                                                                2000US-0233065
                                                                                                                20000S-0234998
                                                                                                                         2000US-0235484
                                                                                                                                         2000US-0235836
                                                                                                                                                                                  2000US-0236370
                                                                                                                                                                                                         2000US-0237038
                                                                                                                                                                                                                  2000US-0237039
                                                                                                                                                                                                                                                                                  2000US-0241787
2000US-0241808
                                                                                                                                                                                                                                                                                                                                                                                                                    :0000US-0246532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0249211.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :000US-0249213.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0249214
2000US-0249215
                                2000US-0232398
                                                        2000US-0232401
                                                                                                                                                                 2000US-0236368
                                                                                                                                                                         2000US-0236369
                                                                                                                                                                                                                                                                  0000US-0241785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0000S-0249209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0000US-0249216
                        2000US-0232397
                                                                                                        2000US-0234997
                                                                                                                                                  2000US-0236327
                                                                                                                                                                                                 2000US-0237037
                                                                                                                                                                                                                                                          2000US-0241221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0249299
                              14-SEP-2000;
14-SEP-2000;
14-SEP-2000;
                                                                                                                                                                                                                                                20-0CT-2000;
20-0CT-2000;
20-0CT-2000;
20-0CT-2000;
                                                                                                                                                                                        02-OCT-2000;
02-OCT-2000;
02-OCT-2000;
                                                                             14-SEP-2000;
21-SEP-2000;
                                                                                                                                                                                                                02-OCT-2000;
02-OCT-2000;
                                                                                                                                                                                                                                13-OCT-2000;
                                                                                                                                                                                                                                                                                          20-OCT-2000;
20-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                  08-NOV-2000;
08-NOV-2000;
                                                       14-SEP-2000;
                                                                                                        25-SEP-2000;
                                                                                                                                                29-SEP-2000;
29-SEP-2000;
                                                                                                                                                                 SEP-2000;
                                                                                                                                                                                                                                                                                  20-OCT-2000;
                                                                                                                                                                                                                                                                                                                          08-NOV-2000;
08-NOV-2000;
                                                                                                                                                                                                                                                                                                                                          -NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                 08-NOV-2000;
08-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                  08-NOV-2000;
08-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                   08-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                   08-NOV-2000;
                                                                        14-SEP-2000;
                                                                                                                25-SEP-2000;
                                                                                                                                                                                 29-SEP-2000;
                                                                                                                                                                                                                                                                                                         20-OCT-2000;
01-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .7-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-NOV-2000;
                                                                                                                                ·SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .7-NOV-2000;
                                                                                                21-SEP-2000,
                                                                                                                                                                                                                                                                                                                                                                                                          08-NOV-2000,
                                                                                                                                                                                                                                                                                                                                                                                                                          08-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                           08-NOV-2000;
08-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7-NOV-2000
                                                                                                                         26-SEP-2000
                                                                                                                                         27-SEP-2000
                                                                                                                                                                        29-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .7-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .7-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .7-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7-NOV-2000
*************************
```

```
ANX AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (I)

amino acid sequences given in AAM82170 to AAM91921. (I) have cytostatic
activity, and can be used in gene therapy and vaccine production. (I)
proteins and polynucleotides may be used in the prevention, diagnosis and
treatment of diseases associated with inappropriate (I) expression. For
example, they may be used to treat disorders associated with decreased
crepression by rectifying mutations or deletions in a patient's genome
that affect the activity of (I) by expressing inactive proteins or to
supplement the patients own production of (I). Additionally, (I)
couplynucleotides may be used to produce the secreted (I), by inscrting
the nucleic acids into a host cell and culturing the cell to express the
protein. (I) proteins and polynucleotides may be used to prevent,
cancers and cancer metastases of haematopoietic antigen genomic
to AAK87694 represent human immune/haematopoietic antigen genomic
sequences from the present invention. AAK54912 to AAK54950 and AAM82169
crepresent sequences used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5446 TTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTG 5505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    106 TITGIATITITAGIAGAGATGGGGTTTCACCATGITGGCCCAGGCTGGTCTCAAACTCCTG 47
                                                                                                                                                                                                                                                                                                                                                                           Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; immune; haematopoietic; immune/haematopoietic antigen; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human immune/haematopoietic antigen genomic sequence SEQ ID NO:22910.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; SEQ ID NO 21652; 3071pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 67; DB 22; Length 141; Pred. No. 2.5e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cytostatic; gene therapy; vaccine; metastasis; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 141 BP; 40 A; 34 C; 38 G; 29 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Pred. w.
                                                                                                                                                                                                                                                                                                       Barash SC, Ruben SM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAK68098 standard; DNA; 141 BP.
2000US-0249300.
2000US-0250160.
2000US-0250391.
2000US-0251030.
2000US-0251988.
                                                                                                                                      20000S-0251868.
20000S-0251869.
20000S-0251989.
20000S-0251990.
                                                                                      2000US-0256719.
2000US-0251479.
2000US-0251856.
                                                                                                                                                                                                                                                                    (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                  05-JAN-2001; 2001US-0259678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 100.0
Matches 67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                          WPI; 2001-483426/52
              01-05C-2000;
01-05C-2000;
05-05C-2000;
05-05C-2000;
06-05C-2000;
08-05C-2000;
08-05C-2000;
08-05C-2000;
08-05C-2000;
08-05C-2000;
08-05C-2000;
08-05C-2000;
11-05C-2000;
                                                                                                                                                                                                                                                                                                        Rosen CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAK68098;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
AAK68098
   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
```

ö

```
2000US - 0.235836.
2000US - 0.236368.
2000US - 0.236368.
2000US - 0.236368.
2000US - 0.236369.
2000US - 0.236369.
2000US - 0.236369.
2000US - 0.237038.
2000US - 0.237039.
2000US - 0.237039.
2000US - 0.237039.
2000US - 0.237039.
2000US - 0.246524.
2000US - 0.246524.
2000US - 0.246524.
2000US - 0.246524.
2000US - 0.246528.
2000US - 0.246529.
2000US - 0.249218.
2000US - 0.251868.
2000US - 0.251869.
2000US - 0.251869.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17 - NOV - 2000;
01 - DEC - 2000;
01 - DEC - 2000;
05 - DEC - 2000;
05 - DEC - 2000;
                                                                                                                                                                                                                                                          -NOV-2000;
-NOV-2000;
-NOV-2000;
                                                                           20000US-0179065.
2000US-0180628.
2000US-0180664.
2000US-0189874.
2000US-0199076.
2000US-0199076.
2000US-020515.
2000US-020515.
2000US-0215135.
2000US-0225214.
2000US-0225214.
2000US-0225266.
2000US-0225266.
2000US-0225266.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0229344.
2000US-0229345.
2000US-0229509.
                                                          17-JAN-2001; 2001WO-US01354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0235484
                  WO200157182-A2
                                                                                                                                      119-APR 2000)
28-JUN 2000)
29-JUN 2000)
30-JUN 2000)
30-JUN 2000)
30-JUN 2000)
11-JUL 2000)
11-JUL 2000)
11-JUL 2000)
11-JUL 2000)
14-JUL 2000)
14-AUG 2000)
16-SEP 2000)
17-SEP 2000)
18-AUG 2000)
18-AUG 2000)
19-SEP 2000)
10-SEP 2000)
10-SEP 2000)
10-SEP 2000)
10-SEP 2000)
10-SEP 2000)
11-SEP 2000)
 Homo sapiens
                                      09-AUG-2001
```

```
2000US-0217496
2000US-0218290
                                                                                                                                                                           2000US-0225213
                                                                                                                                                                                         2000US-0225214
                                                                                                                                                                                                                                                                                          2000US-0225758
                                                                                                                                                                                                                                                                                                         2000US-0225759
                                                                                                                                                                                                                                                                                                                                                                                                2000US-0228924
                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0229344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0230438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0231242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0231243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0231244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0231968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0232398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0235836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0236370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0237038
                                                                       2000US-0217487
                                                                                                                                                                                                                                                                              2000US-0225757
                                                                                                                                                                                                                                                                                                                                      2000US-0226681
                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0229287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0230437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0231413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0232080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0232081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0232399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0232400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0233063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0233065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0234274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0234998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0235484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0236367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0236368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0236369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0236802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0240960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0233064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0234223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0234997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0236327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0237037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0241221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-02324
                                                                                  11-JUL-2000;
14-JUL-2000;
26-JUL-2000;
26-JUL-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-SEP-2000;
27-SEP-2000;
27-SEP-2000;
                                                                                                                                                                                                  14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                  22-AUG-2000;
22-AUG-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-SEP-2000;
14-SEP-2000;
14-SEP-2000;
                                                                                                                                                                                                                                                                                                        14-AUG-2000;
18-AUG-2000;
22-AUG-2000;
                                                                                                                                                                                       14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                              30-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                              01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                        01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        38-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      38-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-SEP-2000;
12-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-SEP-2000;
14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-SEP-2000;
25-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-OCT-2000;
02-OCT-2000;
                                                                                                                                                                                                                                                                                          14 - AUG - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                           01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-SEP-2
AMX54951 to AAK64702 encode the human immune/haematopoietic antigen (I)

amino acid sequences given in AAM82170 to AAM91921. (I) have cytostatic
activity, and can be used in gene therapy and vaccine production. (I)
proteins and polynucleotides may be used in the prevention, diagnosis and
treatment of diseases associated with inappropriate (I) expression. For
example, they may be used to treat disorders associated with decreased
expression by rectifying mutations or deletions in a patient's genome
that affect the activity of (I) by expressing inactive proteins or to
supplement the patients own production of (I). Additionally, (I)
conclusionate of acids into a host cell and culturing the cell to express the
protein. (I) proteins and polynucleotides may be used to prevent,
diagnose and treat immune/haematopoietic-related diseases, especially
cancers and cancer metastases of haematopoietic-derived cells. AAK64703
co AAK87694 represent human immune/haematopoietic antigen genomic
sequences from the present invention. AAK54912 to AAK84950 and AAM82169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5446 TTTGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCCAGGCTGGTCTCAAACTCCTG 5505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95
                                                                    Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; immune; haematopoietic; immune/haematopoietic antigen; cancer; cytostatic; gene therapy; vaccine; metastasis; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human immune/haematopoietic antigen genomic sequence SEQ ID NO:23690
                                                                                                                            Disclosure; SEQ ID NO 22910; 3071pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 1.2%; Score 67; DB 22; Length 141; Best Local Similarity 100.0%; Pred. No. 2.5e-14; Matches 67; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 141 BP; 29 A; 38 C; 34 G; 40 T; 0 other;
             Ruben SM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAK68878 standard; DNA; 141 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0180628
2000US-0184664
2000US-0184530
2000US-019874
2000US-0198123
2000US-0198123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-JAN-2001; 2001WO-US01354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0179065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
            Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96 ACCTCAG 102
                                       WPI; 2001-483426/52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200157182-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-MAR-2000;
18-APR-2000;
19-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-AUG-2001
                                                                                                 metastasis
          Rosen CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAK68878;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAK68878/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
```

g ð 8

ò

```
19-MAY-2000;
07-JUN-2000;
28-JUN-2000;
30-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16-MAR-2000;
17-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-JUL-2000;
11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .4 - AUG - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAK70059;
                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAK70059/c
                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 15
     55555555555555<del>×</del>8
                                                                                                                                                                                                                                                                                                                                                                   Dp
                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (I) amino acid sequences given in AAM82170 to AAM9191. (I) have cytostatic activity, and can be used in gene therapy and vaccine production. (I) proteins and polynucleotides may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate (I) expression. For
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; SEQ ID NO 23690; 3071pp + Sequence Listing; English.
20-OCT-2000; 2000US-0241786.
20-OCT-2000; 2000US-0241786.
20-OCT-2000; 2000US-0241786.
20-OCT-2000; 2000US-0241809.
20-OCT-2000; 2000US-0241809.
20-OCT-2000; 2000US-02418126.
01-NOV-2000; 2000US-0246477.
08-NOV-2000; 2000US-0246477.
08-NOV-2000; 2000US-0246477.
08-NOV-2000; 2000US-0246477.
08-NOV-2000; 2000US-0246528.
08-NOV-2000; 2000US-0246528.
08-NOV-2000; 2000US-0246528.
08-NOV-2000; 2000US-0246528.
08-NOV-2000; 2000US-0246529.
08-NOV-2000; 2000US-0246529.
08-NOV-2000; 2000US-0246529.
08-NOV-2000; 2000US-024929.
17-NOV-2000; 2000US-024929.
17-NOV-2000; 2000US-024921.
17-NOV-2000; 2000US-024929.
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-483426/52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rosen CA,
```

```
ö
example, they may be used to treat disorders associated with decreased expression by rectifying mutations or deletions in a patient's genome that affect the activity of (1) by expressing inactive proteins or to supplement the patients own production of (1). Additionally, (1) polynucleotides may be used to produce the secreted (1), by inserting the nucleic acids into a host cell and culturing the cell to express the protein. (1) proteins and polynucleotides may be used to prevent, diagnose and treat immune/haematopoietic-related diseases, especially cancers and cancer metastases of haematopoietic-derived cells. AAK64703 to AAK87694 represent human immune/haematopoietic antigen genomic sequences from the present invention. AAK54912 to AAK64950 and AAM82169 represent sequences used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; immune; haematopoletic; immune/haematopoletic antigen; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human immune/haematopoietic antigen genomic sequence SEQ ID NO:24871.
                                                                                                                                                                                                                                                                                                              0; Gaps
                                                                                                                                                                                                                                                                             Length 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cytostatic; gene therapy; vaccine; metastasis; ds.
                                                                                                                                                                                                                                        Sequence 141 BP; 40 A; 34 C; 38 G; 29 T; 0 other;
                                                                                                                                                                                                                                                                         1.2%; Score 67; DB 22; L
100.0%; Pred. No. 2.5e-14;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAK70059 standard; DNA; 141 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20000S-0180628
2000US-018664
2000US-0186836
2000US-0189874
2000US-0199874
2000US-02098123
2000US-0209467
2000US-0219467
2000US-0215135
2000US-0215135
2000US-0217496
2000US-0217496
2000US-0217496
2000US-0217496
2000US-0217496
2000US-0217496
2000US-0217496
2000US-0217496
2000US-0217496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-JAN-2001; 2001WO-US01354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                            Local Similarity 100.
nes 67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                       5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200157182-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14 - AUG - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14-AUG-2000;
```

```
2000US-0228924.
2000US-0229287.
2000US-0229343.
           2000US-0225270.
2000US-0225447.
2000US-0225757.
2000US-0225758.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0237040.
2000US-0239935.
2000US-0239937.
                                            2000US-0225759.
2000US-0226279.
                                                              20000S-0226681.
20000S-0226868.
                                                                                                                           20000S-0229344
                                                                                                                                            2000US-0229509.
2000US-0229513.
                                                                                                                                                             2000US-0230437.
2000US-0230438.
                                                                                                                                                                               2000US-0231242
2000US-0231243
                                                                                                                                                                                                 2000US-0231244
                                                                                                                                                                                                                           0000S-0232080
                                                                                                                                                                                                                                     2000US-0232081
                                                                                                                                                                                                                                            0000S-0231968
                                                                                                                                                                                                                                                              2000US-0232398
                                                                                                                                                                                                                                                                                                                                                    2000US-0234998
                                                                                                                                                                                                                                                                                                                                                                                                        20000S-0236368
                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0236369
                                                                                                                                                                                                                                                                                                                                                                                                                           0000S-0236370
                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0236802
                                                                                                                                                                                                                                                                                                                                                                                                                                                    3000US-0237038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0240960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0241785
2000US-0241786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0241808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0000S-0241809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0241826
2000US-0244617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0246474
                                                                                                                                                                                                                                                                                                                                  2000US-0234274
                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0237037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0241787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0246525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0246526
                                                                                                                                                                                                                                                     2000US-0232397
                                                                                                                                                                                                                                                                                        2000US-0232401
                                                                                                                                                                                                                                                                                                                                            2000US-0234997
                                                                                                                                                                                                                                                                                                                                                                                                1000US-0236367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0241221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-OCT-2000;
20-OCT-2000;
00-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
14 - AUG - 2000)
18 - AUG - 2000)
22 - AUG - 2000)
33 - AUG - 2000)
31 - SEP - 2000)
01 - SEP - 2000)
01 - SEP - 2000)
01 - SEP - 2000)
06 - SEP - 2000)
06 - SEP - 2000)
08 - SEP - 2000)
11 - SEP - 2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-0CT-2000;
20-0CT-2000;
20-0CT-2000;
20-0CT-2000;
                                                                                                                                                                                                                                                                                                                                                                            27-SEP-2000;
29-SEP-2000;
29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -OCT-2000;
-OCT-2000;
-OCT-2000;
                                                                                                                                                                                                                                                                                                                 14-SEP-2000;
21-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                     29-SEP-2000;
29-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                02-0CT-2000;
02-0CT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                29-SEP-2000;
29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-OCT-2000;
                                                                                                                                                                                                                                                                                                                                            25-SEP-2000;
                                                                                                                                                                                                                                                                                                                                  21-SEP-2000;
```

```
AAX54951 to AAX64702 encode the human immune/haematopoietic antigen (I)

amino acid sequences given in AAM82170 to AAM91921. (I) have cytostatic
activity, and can be used in gene therapy and vaccine production. (I)
cortivity, and can be used in gene therapy and vaccine production. (I)
corticins and polynucleotides may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate (I) expression. For example, they may be used to treat disorders associated with decreased expression by rectifying mutations or deletions in a patient's genome corporation by rectifying mutations or deletions in a patient's genome that affect the activity of (I) by expressing inactive proteins or to supplement the patients own production of (I). Additionally, (I) polynucleotides may be used to produce the secreted (I), by inserting the nucleic acids into a host cell and culturing the cell to express the protein. (I) proteins and polynucleotides may be used to prevent, diagnose and treat immune/haematopoietic-related diseases, especially cancers and cancer metastases of haematopoietic-derived cells. AAK64703 to AAK87694 represent human immune/haematopoietic antigen genomic sequences from the present invention. AAK54950 and AAM82169 represent invention. AAK54951 to AAK54950 and AAM82169.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; SEQ ID NO 24871; 3071pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rosen CA, Barash SC, Ruben
                                                                                          2000US-0246613.
2000US-0249207.
2000US-0249208.
                                                                                                                                                                      2000US-0249211.
2000US-0249212.
2000US-0249213.
2000US-0249213.
                                                                                                                                                                                                                                    2000US-0249215.
2000US-0249216.
2000US-0249217.
                                                                                                                                                                                                                                                                               20000S-0249218
20000S-0249244.
20000S-0249245.
2000US-0249245.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0251856.
2000US-0251868.
2000US-0251869.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HUMA-) HUMAN GENOME SCI INC
                                                               2000US-0246610
2000US-0246611
                                                                                                                                         2000US-0249209
2000US-0249210
                                                                                                                                                                                                                                                                                                                                                2000US-0249265
                                                                                                                                                                                                                                                                                                                                                                               2000US-0249299
                                                                                                                                                                                                                                                                                                                                                                                            2000US-0249300
                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0250160
2000US-0250391
                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0251030
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0251988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0256719
2000US-0251479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0251990
                                                                                                                                                                                                                                                                                                                                                             2000US-0249297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-483426/52
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                    17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                       05-DEC-2000;
05-DEC-2000;
06-DEC-2000;
06-DEC-2000;
08-DEC-2000;
08-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                            01-DEC-2000;
01-DEC-2000;
```

Sequence 141

BP; 40 A; 34 C; 38 G; 29 T; 0 other;

```
0; Gaps
Best Local Similarity 100.0%; Pred. No. 2.5e-14;
Matches 67; Conservative 0; Mismatches 0; Indels
                                                                5506 ACCTCAG 5512
||||||||
46 ACCTCAG 40
                                         qq
                                                                δ
                                                                                 Q
```

Search completed: June 19, 2003, 11:52:01 Job time : 1074 secs

GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

June 19, 2003, 11:34:27; Search time 720 Seconds Run on:

(without alignments)
11238.046 Million cell updates/sec

US-09-966-880A-9 5514 1 acagacgaatacatggtcca......tcaaactcctgacctcagag 5514 Perfect score:

Scoring table: Sequence:

OLIGO\_NUC Gapop 60.0 , Gapext 60.0

1042519 segs, 733713590 residues Searched:

Word size :

Minimum DB seq length: 0 Maximum DB seq length: 20000000000

Total number of hits satisfying chosen parameters:

Post-processing: Listing first 45 summaries

Database :

Published\_Applications\_NA:\*

cgn2\_6/ptodata/1/pubpna/US07\_PUBCOMB.seq:\*

cgn2\_6/ptodata/1/pubpna/PCT\_NEW\_PUB.seq:\*

cgn2\_6/ptodata/1/pubpna/PCT\_NEW\_PUB.seq:\*

cgn2\_6/ptodata/1/pubpna/US06\_NEW\_PUB.seq:\*

cgn2\_6/ptodata/1/pubpna/US06\_PUBCOMB.seq:\*

cgn2\_6/ptodata/1/pubpna/PCTUS\_PUBCOMB.seq:\*

cgn2\_6/ptodata/1/pubpna/PCTUS\_PUBCOMB.seq:\*

cgn2\_6/ptodata/1/pubpna/US08\_NEW\_PUB.seq:\*

cgn2\_6/ptodata/1/pubpna/US08\_NEW\_PUB.seq:\*

cgn2\_6/ptodata/1/pubpna/US09\_NEW\_PUB.seq:\*

cgn2\_6/ptodata/1/pubpna/US09\_NEW\_PUB.seq:\*

/cgn2\_6/ptodata/1/pubpna/US10\_NEW\_PUB.seq:\*/cgn2\_6/ptodata/1/pubpna/US10\_PUBCOMB.seq:\*/cgn2\_6/ptodata/1/pubpna/US60\_NEW\_PUB.seq:\*/cgn2\_6/ptodata/1/pubpna/US60\_PUBCOMB.seq:\*/cgn2\_6/ptodata/1/pubpna/US60\_PUBCOMB.seq:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 9, Appli	വ	1	7, A	30	Sequence 9880, Ap	Sequence 5684, Ap	Sequence 2384, Ap	Sequence 5, Appli	Sequence 2385, Ap	₹	Sequence 1108, Ap	Sequence 1108, Ap	Sequence 3, Appli	Sequence 5, Appli	Sequence 36, Appl	Sequence 3, Appli	Sequence 1, Appli	Sequence 1205, Ap
DB ID	9 US-09-96-880A-9	9 US-09-966-880A-35	9 US-09-966-880A-11	9 US-09-966-880A-7	9 US-09-832-292-30	9 US-09-764-891-9880	9 US-09-764-891-5684	10 US-09-764-877-2384	9 US-09-984-827-5	10 US-09-764-877-2385	9 US-09-764-891-8207	9 US-10-074-095-1108	10 US-09-764-860-1108	9 US-09-900-449A-3	10 US-09-982-091A-5	9 US-09-563-728A-36	10 US-09-729-920-3	9 US-10-020-141-1	9 US-10-092-154-1205
& Query Match Length DB	5514	11204	87	2818	8158	84	1160	5930	11754	16086	24028	32170	32170	34668	58837	122186	143306	174566	251
Query Match	100.0	86.5	1.6	1.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Score	5514	4771	87	87	99	67	67	29	29	49	29	49	67	67	67	67	67	67	99
Result No.	-	7	m	4	'n	ο υ	7	ထ	g	c 10	c 11	c 12	c 13	c 14	15	c 16	17	c 18	19

Sequence 1205, Ap Sequence 1783, Ap Sequence 628, App Sequence 6781, Ap Sequence 1782, Ap Sequence 1724, Ap Sequence 1724, Ap Sequence 1724, Ap Sequence 174, Ap Sequence 174, Ap Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 1744, Ap Sequence 1744, Ap Sequence 399, App Sequence 399, App Sequence 797, App Sequence 797, App Sequence 797, App Sequence 797, App Sequence 802, App Sequence 180, App Sequence 180, App Sequence 180, App Sequence 197, App Sequence 197, App Sequence 197, App Sequence 180, App Sequence 177, App Sequence 180, App Sequence 180, App	Sequence 4335, Ap Sequence 737, App Sequence 9161, Ap Sequence 100, App	
US-09-764-847-1205 US-10-091-504.1783 US-09-764-869-1783 US-09-64-891.6781 US-09-64-891.6781 US-09-64-891.6782 US-00-091-504.1782 US-00-764-869-1782 US-09-764-869-1782 US-09-764-869-1784 US-09-764-869-1784 US-09-764-869-1744 US-09-764-887-399 US-09-764-887-397 US-09-764-887-399	US-09-918-995-4335 US-10-091-572-737 US-09-764-891-9161 US-10-116-420-100	
100 100 100 100 100 100 100 100 100 100	თთთთ	
251 285 285 638 638 623 6257 6751 1409 11409 12118 12118 12118 1409 32146 32146 32146 32146 32146	426 3569 3569 10527	
	1111	
	64 44 44 44	
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 4 4 4 4 4 4 0 .	

```
Sequence 9, Application US/09966880A
Patent No. US20020164743A1
GENERAL INFORMATION:
APPLICANT: Honjo, Tasuku
APPLICANT: MUTAMATESU, MASAMICHI
TITLE OF INVENTION: NOVEL CYTIDINE DEAMINASE
FILE REFERENCE: 06501-088001
CURRENT APPLICATION NUMBER: US/09/966,880A
CURRENT FILING DATE: 2001-09-28
PRIOR FILING DATE: 2000-03-28
PRIOR FILING DATE: 1999-12-27
PRIOR FILING DATE: 1999-12-27
PRIOR FILING DATE: 1999-12-27
PRIOR APPLICATION NUMBER: UP 11-371382
PRIOR APPLICATION NUMBER: UP 11-371382
PRIOR FILING DATE: 1999-10-27
PRIOR APPLICATION NUMBER: UP 11-178999
PRIOR APPLICATION NUMBER: UP 11-178999
PRIOR APPLICATION NUMBER: UP 11-178999
PRIOR PRIOR APPLICATION NUMBER: UP 11-178999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 36
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ) NAME/KEY: intron
; LOCATION: (1119)...(5514)
US-09-966-880A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
NAME/KEY: exon
LOCATION: (1032)...(1118)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION: (1)...(1031)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE: NAME/KEY: intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 9
LENGTH: 5514
US-09-966-880A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
```

ö Indels Query Match 100.0%; Score 5514; Best Local Similarity 100.0%; Pred. No. 0; Matches 5514; Conservative 0; Mismatches

ö

Length 5514;

DB 9;

1 ACAGACGAATACATGGTCCAAGCTAGGGCTATTGATTGAAAATCATCAAGGTATAGATG

ò

8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
---

1620 1740 1800 1800 1860 2040 2160 1260 1380 1440 1440 1500 1500 1680 1680 GTTAAAGGCCCAATTGTTAGGCAGTTAATG 1740 1860 ARTACTATGGATGTATGAGAATAACACCTA 1920 2040 2100 2100 2160 1380 AAAGTCACTATGATTGTGTCCATTATAAGG GTTAAAGGCCCAATTGTTAGGCAGTTAATG TGTTCAGACGTAGCTTAACTTACCTCTTAG HILLHILLHILLHILLHILLHILLHILLH GGCCTCCTAAAGTGCTGGAATTATAGACAT AATCTGAGTAATGAGACTGGTAGCTATCCC AAGGTAATAGCAGTACTGTACTAAAAACGG CTTATACGCTGTCAGCCCAATTCTTTCTGT TGAAACTAATTTATGGTAATAATAATAACA AAAGTCACTATGATTGTGTCCATTATAAGG AGGGTCTTAGCCCAGCCGAGGCTGGTCTCT ATCAGCTTGATCAATATGCATATATTTT ATGTGGCAAAAGAAGTAGTGCGTACAATGT

us-09-966-880a-9.oli.rnpb

```
ð
                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                              Ω
                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                        5100
                                                                                                                                                                                                                                                                                                                                                                                         5100
                                                                                                                                                                                                                                                                                                                                                                                                          5160
                                                                                                                                                                                                                                                                                                                                                                                                                           5160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5460
                                                                                                                                                                                              4800
                                                                                                                                                                                                                                 4860
                                                                                                                                                                                                                                                                                                    4980
                                                             CACACATGCAATCAGTATAATCCAAATCATGTAAATATGTGCCTGTAGAAAGACTAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4381 TCTCCACAAAATGGGAAAAAAAAAAGCAAATCAGTGGTTGTCCTGTGGGGAGGGGAAG
                          AAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTGAGCCCTTTACTTCGCA
                                                                                                                                                                     CGGGTAGATGGGATTACAGGCGCCCACCACACACTCGGCTAATGTTTTTTAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4501 GACTGTGGTAGCAGTTTGGGGTGTTTACATCCAAAAATATTCGTAGAATTATGCATCTTA
                                                                                      AAAAGTTTCAATTCTCTTGCCAGCAAACGTTATTCAAATTCCTGAGCCCTTTACTTCGCA
                                                                                                                                                            AATTCTCTGCACTTCTGCCCCGTACCATTAGGTGACAGCACTAGCTCCACAAATTGGATA
                                                                                                                                                                                              AATGCATTTCTGGAAAAGACTAGGGACAAAATCCAGGCATCACTTGTGCTTTCATATCAA
                                                                                                                                                                                                                                CCACGCTGTACAGCTTGTGTTGCTGTCTGCAGCTGCAATGGGGGACTCTTGATTTCTTTAA
                                                                                                                                                                                                                                                                   GGAAACTTGGGTTACCAGAGTATTTCCACAAATGCTATTCAAATTAGTGCTTATGATATG
                                                                                                                                                                                                                                                                                                    CAAGACACTGTGCTAGGAGCCAGAAAACAAAGAGGAGGAGAAAATCAGTCATTATGTGGGA
                                                                                                                                                                                                                                                                                                                                       ACAACATAGCAAGATATTTAGATCATTTTGACTAGTTAAAAAAGCAGCAGAGTACAAAAT
                                                                                                                                                                                                                                                                                                                                                                                         CACACATGCAATCAGTATAATCCAAATCATGTAAATATGTGCCTGTAGAAAGACTAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                          AATAAACACAAGAATCTTAACAGTCATTGTCATTAGACACTAAGTCTAATTATTATTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                             AGACACTATGATATTTGAGATTTAAAAAATCTTTAATATTTTAAAATTTTAGAGCTCTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTTTTTTTTTTGAGATGGAGTTTTGGTCTTGTTGCCCATGCTGGAGTGGAATGGCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AYCATAGCTCACTGCACCTCCTCCTGGGTTCAAGCAAAGCTGTCGCCTCAGCCTCC
                   GACTGCAAAGAGGGAAGAAGCTCTGGTGGGGTGAGGGTGGTGATTCAGGTTCTGTATCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACCTCAGAG 5514
                                                                                                                                          4621
                                                                                                                                                           4681
                                                                                                                                                                            4681
                                                                                                                                                                                                               4741
                                                                                                                                                                                                                                                4801
                                                                                                                                                                                                                                                                                   4861
                                                                                                                                                                                                                                                                                                                     4921
                                                                                                                                                                                                                                                                                                                                                      4981
                                                                                                                                                                                                                                                                                                                                                                        5041
                                                                                                                                                                                                                                                                                                                                                                                         5041
                                                                                                                                                                                                                                                                                                                                                                                                                          5101
                                                                                                                                                                                                                                                                                                                                                                                                                                            5161
                                                                                                                                                                                                                                                                                                                                                                                                                                                             5161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5461
                 4441
                                                                                       4561
                                                                                                        4561
                                                                                                                        4621
                                                                                                                                                                                             4741
                                                                                                                                                                                                                                                                  4861
                                                                                                                                                                                                                                                                                                    4921
                                                                                                                                                                                                                                                                                                                                      4981
                                                                                                                                                                                                                                                                                                                                                                                                         5101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5281
                                                                                                                                                                                                                                4801
                                                                                                                                         q
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                         90
                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
셤
                 ò
                                  셤
                                                    à
                                                                     쉽
                                                                                       õ
                                                                                                        g
                                                                                                                        à
                                                                                                                                                           ò
                                                                                                                                                                         g
                                                                                                                                                                                             à
                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCACCCATCTTCACTGGATCCAAATCAGGAGGAAGGCCGTTGGGGTACCTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGTGATGCTGTCAGGGGAGGAGCCCAAAAGGGCAAGCTCAAATTTGAATGTGAAGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1011 AATGCACTGTCAGACTGAGACAGAGAACCATCATTAATTGAAGTGAGATTTTTCTGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGACTTGCAGGGAGGCAAGAAGACACTCTGGACACCACTATGGACAGGTAAAGAGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   651 AATAACCCAAGAAGCTATTTAAATGCTCTTTAAGGTATTTACATAAATATTACTATTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             591 AGGTTCAGAGAGACTGTGGGGAATATGGGGGAATTAGAGGCTATCTGAGGCTCTTCAACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 AGGITCAGAGAGACIGIGGGGAATAIGGGGGGAATTAGAGGCTATCTGAGGGCTCTTCAACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         711 ATTGTGCTTTTATTTTGTGTTATCATGATTATAATTGAAGTGTCTACTGTTACTGCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGATCTTTGCTAGCTATGGAGCATGGACTTGGGCTTTTAGAGCAGCAGCCCCCAAAGGAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TAAACATTAAAGCAGAGCTGCCCTCAATGGTTTAACCTGTGTGACTCTGCCTATGACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TAAACATTAAAGCAGAGCTGCCCTCAATGGTTTAACCTGTGTGACTCTGCCTATGACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCACCCACCCATCTTCACTGGATCCAAATCAGGAGCAAGGCCGTTGGGGGTACCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 11204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         э
Э
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .,
                                                           GEBERAL INFORMATION:
GEBERAL INFORMATION:
APPLICANT: HONJO, TSSUKU
APPLICANT: MUTSMEALS, MASSAMICH
TITLE OF INVENTION: NOVEL CYTDINE DEAMINASE
FILE REFERENCE: 06501-088001
CURRENT APPLICATION NUMBER: DCT/JP00/01918
PRIOR FILING DATE: 2001-09-28
PRIOR APPLICATION NUMBER: PT/JP00/01918
PRIOR FILING DATE: 1999-12-27
PRIOR FILING DATE: 1999-12-27
PRIOR FILING DATE: 1999-06-24
PRIOR FILING DATE: 1999-06-24
PRIOR FILING DATE: 1999-06-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 4771; DE Pred. No. 0; 0; Mismatches
US/09966880A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86.5%;
99.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
  Sequence 35, Application U Patent No. US20020164743A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-966-880A-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Simi
Matches 4921;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
```

ö

ö

```
1032 AGAGAACCATCATTAATTGAAGTGAGATTTTTCTGGCCTGAGACTTGCAGGGAGGCAAGA 1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 30, Application US/09832292
Fatent No. US2002017205A1
GENERAL INFORMATION:
APPLICANT: Ryazanov, Alexey
TITLE OF INVENTION: MAMMALIAN ALPHA-KINASE PROTEINS, NUCLEIC ACIDS AND
TITLE OF INVENTION: DIGANOSTIC AND THERAPEUTIC USES THEREOF
TITLE OF INVENTION: DIGANOSTIC AND THERAPEUTIC USES THEREOF
CURRENT APPLICATION NUMBER: US/09/832,292
CURRENT FILING DATE: 2001-04-10
PRIOR PELICATION NUMBER: 09/632,131
PRIOR FILING DATE: 2001-08-03
NUMBER OF SEQ ID NOS: 45
SOFTWARE: PATENTIN VERSION 3.1
SEQ ID NO 30
LENGTH: 8158
                                                                                                                                                                                                                      Gaps
                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 9880, Application US/09764891

Sequence 9880, Application US/09764891

Sequence 9880, US20030077808A1

GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVERTION: NUMBER: US/09/764,891

CURRENT FILING DATE: 2001-01-17

Prior application data removed - consult PALM or file wrapper NUMBER OF SEQ ID NOS: 10231

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 9880

LENGTH: 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                              ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 8158;
                                                                                             Length 2818;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 1.2%; Score 68; DB 9; Length 815
Best Local Similarity 100.0%; Pred. No. 1.2e-21;
Matches 68; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 1.2%; Score 67; DB 9; Length 84; Best Local Similarity 100.0%; Pred. No. 2.7e-21; Matches 67; Conservative 0; Mismatches 0; Indels
                                                                                                                                              0; Indels
                                                                                           Ouery Match 1.6%; Score 87; DB 9; L. Best Local Similarity 100.0%; Pred. No. 1.1e-30; Matches 87; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                        1092 AGACACTCTGGACACCACTATGGACAG 1118
                                                                                                                                                                                                                                                                                                                   61 AGACACTCTGGACACCACTATGGACAG 87
; NAME/KEY: 3'UTR
; LOCATION: (677)...(2818)
US-09-966-880A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1111111
7056 ACCTCAGA 7063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5506 ACCTCAGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo sapiens US-09-832-292-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Homo sapiens
US-09-764-891-9880
                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 5
US-09-832-292-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1032 AGAGAACCATCATTAATTGAAGTGAGATTTTTCTGGCCTGAGACTTGCAGGGAGGCAAGA 1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.6%; Score 87; DB 9; Length 87;
100.0%; Pred. No. 8.7e-31;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 7, Application US/09966880A
Patent No. US20020164743A1
GENERAL INFORMATION:
GENERAL INFORMATION:
TUTLOOF THOOMATION:
TITLE OF INVENTION: WORLE CYTIDINE DEAMINASE
FILE REFERENCE: 06501-0880A1
CURRENT APPLICATION NUMBER: US/09/966,880A
CURRENT APPLICATION NUMBER: US/09/966,880A
PRIOR APPLICATION NUMBER: DST_TP00/01918
PRIOR APPLICATION NUMBER: DP 11-371382
PRIOR FILING DATE: 2000-03-28
PRIOR FILING DATE: 1999-12-27
PRIOR FILING DATE: 1999-12-27
PRIOR FILING DATE: 1999-03-24
PRIOR FILING DATE: 1999-03-24
PRIOR FILING DATE: 1999-03-29
NUMBER OF SEQ ID NOS: 36
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 7
LENGTH. 2818
                                                                                                            GENERAL INFORMATION:
APPLICANT: HOnjo, Tasuku
APPLICANT: Honjo, Tasuku
APPLICANT: Honjo, Tasuku
TITLE OF INVENTION: NOVEL CYTIDINE DEAMINASE
FILE REFERENCE: 06501-088001
CURRENT APPLICATION NUMBER: US/09/966,880A
CURRENT FILING DATE: 2001-09-28
PRIOR APPLICATION NUMBER: PCT/JP00/01918
PRIOR APPLICATION NUMBER: JP 11-371382
PRIOR APPLICATION NUMBER: JP 11-178999
PRIOR FILING DATE: 1999-12-7
PRIOR FILING DATE: 1999-06-24
PRIOR FILING DATE: 1999-06-34
PRIOR FILING DATE: 1999-06-34
PRIOR APPLICATION NUMBER: JP 11-87192
PRIOR FILING DATE: 1999-03-29
NUMBER OF SEQ ID NOS: 36
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1092 AGACACTCTGGACACCACTATGGACAG 1118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 AGACACTCTGGACACCACTATGGACAG 87
                      RESULT 3
US-09-966-880A-11
Sequence 11, Application US/09966880A
; Patent No. US20020164743A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   87; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCATION: (80)...(673)
FEATURE:
NAME/KEY: 5'UTR
LOCATION: (1)...(79)
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
Matches 87; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-966-880A-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-966-880A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
```

g δ

ò

ö

ö

```
RESULT 9
US-09-984-827-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
5446 TITGIATITITAGIAGAGAIGGGGITICACCAIGITGGCCAGGCIGGICTCAAACICCIG 5505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            170 TITGIATITITAGIAGAGATGGGGTITCACCATGITGGCCAGGCTGGTCTCAAACTCCTG 229
                                14
                   5446 TTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2384, Application US/09764877

Sequence 2384 Application US/09764877

Settent No. US2002117140A1

GENERAL INFORMATION:

APPLICANT: Rosen et al.

TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies

FILE REFERENCE: PC005

CURRENT FILING DATE: US/09/764,877

CURRENT FILING DATE: 2001-01-17

Prior application data removed - refer to PALM or file wrapper

NUMBER OF SEQ ID NOS: 4031

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 2384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.2%; Score 67; DB 10; Length 5930;
100.0%; Pred. No. 3.4e-21;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                  Sequence 5684, Application US/09764891

Publication No. US20030077808A1

GENERAL INPORMATION:

APPLICART: Rosen et al.

TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies

FILE REFERENCE: PC006

CURRENT FILING DATE: 2001-01-17

PRIOR application data removed - consult PALM or file wrapper

NUMBER OF SEQ ID NOS: 10231

SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.2%; Score 67; DB 9; Lv
100.0%; Pred. No. 3.1e-21;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 100.
Matches 67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Homo sapiens US-09-764-891-5684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1194 ACCTCAG 1188
                                                                    5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               230 ACCTCAG 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                          13 ACCTCAG 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-764-877-2384/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-764-877-2384
                                                                                                                                                                       US-09-764-891-5684
                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
 ð
                                g
                                                                    õ
```

```
Sequence 5, Application US/09984827
Sequence 5, Application US/09984827
Sequence 5, Application No. US20030056234A1
GENERAL INFORMATION:
APPLICANT: BOSIEN-WONTUS, MARIE-FRANCOISE
APPLICANT: ROSIEN-WONTUS, MARIE-FRANCOISE
APPLICANT: ARNOULD-REGUIGNE, ISABELLE
APPLICANT: ARNOULD-REGUIGNE, ISABELLE
APPLICANT: CAMBIEN, FRANCOIS
TITLE OF INVENTION: POLYMORPHIC SEQUENCES OF THE HUMAN ABCA1 GENE, THEIR USES, AND
TITLE OF INVENTION: DETECTION METHODS AND KITS THEREFOR
FILE REFERENCE: 03806.0522-00000
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: 60/254,108
PRIOR PILING DATE: 2000-10-31
PRIOR PILING DATE: 2000-10-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5446 TITGIATITITAGIAGAGGIGGGITTCACCATGITGGCCAGGCTGGICTCAAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ouery Match
1.2%; Score 67; DB 10; Length 16086;
Best Local Similarity 100.0%; Pred. No. 3.6e-21;
Matches 67; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-764-877-2385/C

Sequence 2385, Application US/09764877

Patent No. US20020147140A1

GENERAL INFORMATION:

TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies

FILE REFERENCE: PCOOS

CURRENT APPLICATION NUMBER: US/09/764,877

CURRENT FILING DATE: 2001-01-17

PRIOR application data removed - refer to PALM or file wrapper

NUMBER OF SEQ ID NOS: 4031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 11754;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.6e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.2%; Score 67; DB 9;
100.0%; Pred. No. 3.6e-2
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 161
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best_Local Similarity 100.
Matches 67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11349 ACCTCAG 11343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-984-827-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Homo sapiens
US-09-764-877-2385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 2385
LENGTH: 16086
```

```
R FILING DATE: 2000-09-21
R APPLICATION NUMBER: 60/228,924
R FILING DATE: 2000-08-30
R FILING DATE: 2000-08-30
R FILING DATE: 2000-08-14
R APPLICATION NUMBER: 60/224,518
R APPLICATION NUMBER: 60/236,369
R APPLICATION NUMBER: 60/226,519
R FILING DATE: 2000-08-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R PELLING DATE: 2000-10-20
R APPLICATION NUMBER: 60/249,299
RR APPLICATION NUMBER: 60/249,299
RR PILING DATE: 2000-10-10
RR PELLING DATE: 2000-10-20
RR PELLING DATE: 2000-09-29
RR PELLING DATE: 2000-09-29
RR PELLING DATE: 2000-10-20
RR PELLING DATE: 2000-10-10
RR PELLING DATE: 2000-10-10
RR PELLING DATE: 2000-10-10
RR PELLING DATE: 2000-10-20
RR PELLING DATE: 2000-10-20
RR PELLING DATE: 2000-10-20
RR PELLING DATE: 2000-10-20
RR PELLING DATE: 2000-12-08
RR PELLING DATE: 2000-09-01
RR APPLICATION NUMBER: 60/229, 345
RR APPLICATION NUMBER: 60/229, 345
RR PELLING DATE: 2000-09-01
RR APPLICATION NUMBER: 60/229, 345
RR APPLICATION NUMBER: 60/229, 345
RR APPLICATION NUMBER: 60/229, 345
RR PELLING DATE: 2000-09-01
RR APPLICATION NUMBER: 60/229, 345
RR PELLING DATE: 2000-09-01
RR APPLICATION NUMBER: 60/229, 345
RR APPLICATION NUMBER: 60/229, 509
RR PILLING DATE: 2000-09-05
RR PELLING DATE: 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R FILING DATE: 2000-10-02
R APPLICATION NUMBER: 60/237,038
R FILING DATE: 2000-10-02
R FILING DATE: 2000-09-29
R APPLICATION NUMBER: 60/236,300
R FILING DATE: 2000-09-29
R APPLICATION NUMBER: 60/236,802
R APPLICATION NUMBER: 60/237,037
R FILING DATE: 2000-10-02
R APPLICATION NUMBER: 60/237,040
R FILING DATE: 2000-10-02
R APPLICATION NUMBER: 60/237,040
   R APPLICATION NUMBER: 60/251,869
R FILING DATE: 2000-12-08
R APPLICATION NUMBER: 60/235,834
R FILING DATE: 2000-09-27
R FILING DATE: 2000-09-27
R FILING DATE: 2000-09-21
R FILING DATE: 2000-09-21
R APPLICATION NUMBER: 60/234,223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/240,960
FILING DATE: 2000-10-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/239,935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/239,937 FILING DATE: 2000-10-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 2000-10-13
       P PRILOR 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
                          Sequence 8207, Application US/09764891
| Publication No. US20030077808A1
| GENERAL INFORMATION:
| APPLICANT: Rosen et al.
| TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
| FILE REFERENCE: PC006
| CURRENT FILING DATE: 2001-01-17
| Prior application data removed - consult PALM or file wrapper | NUMBER OF SEQ ID NOS: 10231
| SOFTWARE: Patentin Ver. 2.0
| SEQ ID NO 8207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ## Publicantion No. US20030077704A1

## Publicant in Sosen et al.

## TITLE OFE INVENTION: Nucleic Acids, Proteins, and Antibodies

FILE REFERENCE: PC008C1

CURRENT APPLICATION NUMBER: US/10/074,095

CURRENT APPLICATION NUMBER: US/10/074,095

CURRENT APPLICATION NUMBER: 09/764,860

## PRIOR PILING DATE: 2001-01-17

## PRIOR APPLICATION NUMBER: 60/179,065

## PRIOR APPLICATION NUMBER: 60/180,628

## PRIOR APPLICATION NUMBER: 60/214,886

## PRIOR PILING DATE: 2000-02-04

## PRIOR PILING DATE: 2000-07-11

## PRIOR PELING DATE: 2000-07-11

## PRIOR APPLICATION NUMBER: 60/225,758

## PRIOR PELING DATE: 2000-07-14

## PRIOR PILING DATE: 2000-09-14

## PRIOR PAPELICATION NUMBER: 60/215,25

## PRIOR PAPELICATION NUMBER: 60/216,647

## PRIOR PAPELICATION NUMBER: 60/216,647

## PRIOR PAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 24028;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 1.2%; Score 67; DB 9; Length 240 Best Local Similarity 100.0%; Pred. No. 3.7e-21; Matches 67; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1108, Application US/10074095
Publication No. US20030077704A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 2000-08-14
APPLICATION NUMBER: 60/216,880
APPLICATION NUMBER: 60/225,270
APPLICATION NUMBER: 60/225,270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19737 ACCTCAG 19731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-764-891-8207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5506 ACCTCAG 5512
-09-764-891-8207/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-074-095-1108/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

Page 10

```
R APPLICATION NUMBER: 60/249,208
R PILING DATE: 2000-11-17
R APPLICATION NUMBER: 60/249,208
R FILING DATE: 2000-11-17
R APPLICATION NUMBER: 60/249,213
R FILING DATE: 2000-11-17
R APPLICATION NUMBER: 60/249,207
R APPLICATION NUMBER: 60/249,207
R APPLICATION NUMBER: 60/249,245
R APPLICATION NUMBER: 60/249,245
R APPLICATION NUMBER: 60/249,245
R FILING DATE: 2000-11-17
R APPLICATION NUMBER: 60/249,217
R APPLICATION NUMBER: 60/249,217
R APPLICATION NUMBER: 60/249,217
R APPLICATION NUMBER: 60/249,218
R APPLICATION NUMBER: 60/249,214
R FILING DATE: 2000-11-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R FILING DATE: 2000-09-08

R APPLICATION NUMBER: 60/232,080

R APPLICATION NUMBER: 60/231,414

R FILING DATE: 2000-09-08

R APPLICATION NUMBER: 60/231,244

R FILING DATE: 2000-09-08

R R PLING DATE: 2000-09-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R FILING DATE: 2000-11-17

R APPLICATION NUMBER: 60/232,400

R FILING DATE: 2000-09-14

APPLICATION NUMBER: 60/231,242

R FILING DATE: 2000-09-08

R APPLICATION NUMBER: 60/231,042
                                                                                            FILING DATE: 2000-11-08
APPLICATION NUMBER: 60/249,216
FILING DATE: 2000-11-17
APPLICATION NUMBER: 60/249,210
FILING DATE: 2000-11-17
                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 2000-08-14
APPLICATION NUMBER: 60/235,836
FILING DATE: 2000-09-27
APPLICATION NUMBER: 60/230,438
FILING DATE: 2000-09-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 2000-09-14
APPLICATION NUMBER: 60/233,063
FILING DATE: 2000-09-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/232,397
FILING DATE: 2000-09-14
APPLICATION NUMBER: 60/232,399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/215,135
FILING DATE: 2000-06-30
APPLICATION NUMBER: 60/225,266
              FILING DATE: 2000-10-20
APPLICATION NUMBER: 60/246,474
                                                         FILING DATE: 2000-11-08
APPLICATION NUMBER: 60/246,532
                                                                                                                                                                                                                  FILING DATE: 2000-08-22
APPLICATION NUMBER: 60/225,759
                                                                                                                                                                                                                                                       FILING DATE: 2000-08-14
APPLICATION NUMBER: 60/225,213
                                                                                                                                                                                                                                                                                             FILING DATE: 2000-08-14
APPLICATION NUMBER: 60/227,182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 2000-08-14
APPLICATION NUMBER: 60/249,218
APPLICATION NUMBER: 60/241,787
                                                                                                                                                                                                  APPLICATION NUMBER: 60/226,681
                                                                                                                                                                                                                                                                                                                                      FILING DATE: 2000-08-22
APPLICATION NUMBER: 60/225,214
PRIOR
```

```
TITLE OF INVENTION: ISOLATED HUMAN SECRETED PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN SECRETED PROTEINS, AND
TITLE OF INVENTION: USES THEREOF
FILE REPERENCE: CL001271
CURRENT APPLICATION NUMBER: US/09/900,449A
CURRENT FILING DATE: 2001-07-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5446 TTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCCAGGCTGGTCTCAAACTCCTG 5505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5446 TTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTG 5505
                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 32170;
                                                                                                                                                                                                                                                                                                                                                                  Length 32170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INCORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PC008
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM or file wrapper
NUMBER OF SEQ ID NOS: 1198
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.8e-21;
                                                                                                                                                                                                                                                                                                                                                                     1.2%; Score 67; DB 9; L
100.0%; Pred. No. 3.8e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.2%; Score 67; DB 10;
100.0%; Pred. No. 3.8e-21
                                                                                                                                                                                                                                                                                                                                                                  Query Match 1.24; July 3.8
Best Local Similarity 100.08; Pred. No. 3.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
              PRIOR APPLICATION NUMBER: 60/232,401
PRIOR FILING DATE: 2000-09-14
PRIOR FILING DATE: 2000-10-4
PRIOR PELLING DATE: 2000-10-20
PRIOR PELLING DATE: 2000-10-30
PRIOR PELLING DATE: 2000-11-30
PRIOR APPLICATION NUMBER: 60/246,475
PRIOR PELLING DATE: 2000-11-30
PRIOR PELLING DATE: 2000-11-30
PRIOR PELLING DATE: 2000-11-30
PRIOR PELLING DATE: 2000-10-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1108, Application US/09764860 Patent No. US20020094953A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3, Application US/09900449A Publication No. US20030040616A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: ZHONG, Jenny et al.
2000-09-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 100.0
Matches 67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1111111
28821 ACCTCAG 28815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28821 ACCTCAG 28815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ) ORGANISM: Homo sapiens
US-09-764-860-1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5506 ACCTCAG 5512
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 13
US-09-764-860-1108/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-900-449A-3/C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
```

```
;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5446 TITGIATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTG 5505
                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 5. Application US/09982091A
Sequence 5. Application US/09982091A
Setent No. US20020151030A1
GENERAL INFORMATION:
APPLICANT: CALIFORNIA INSTITUTE OF TECHNOLOGY
APPLICANT: CALIFORNIA AKIKO
TITLE OF INVENTION: CLASPIN PROTEINS AND METHODS OF USE THEREOF
FILE REFERENCE: CIT1320-1
CURRENT APPLICATION NUMBER: US/09/982,091A
CURRENT APPLICATION NUMBER: US 60/241,246
PRIOR APPLICATION NUMBER: US 60/241,246
PRIOR FILING DATE: 2000-10-17
NUMBER OF SEC ID NOS: 12
SOFTWARE: Patentin version 3.1
SEC ID NO 5
LENGTH: 58837
                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 1.2%; Score 67; DB 10; Length 58837; Best Local Similarity 100.0%; Pred. No. 3.9e-21; Matches 67; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                              Length 34668;
                                                                                                                                                              Query Match 1.2%; Score 67; DB 9; Length 346 Best Local Similarity 100.0%; Pred. No. 3.8e-21; Matches 67; Conservative 0; Mismatches 0; Indels
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 34668
; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-900-449A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Search completed: June 19, 2003, 17:54:07 Job time: 722 secs
                                                                                                                                                                                                                                                                                                                                                 23153 ACCTCAG 23147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             111111
55254 ACCTCAG 55260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Homo sapiens
US-09-982-091A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                          5506 ACCTCAG 5512
                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 15
US-09-982-091A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Op
                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

·			
			,
	·		•

```
Human breast or ov
Human prostate spe
Human Alzhaimer's
SEQ ID NO 485 from
Novel human diagno
Human polypeptide
Human immune/haema
Human polypeptide
                                                                                                                                                                                                                                                                                                                         Human reproductive
Human breast or ov
Human ORFX ORF2176
Novel human secret
Human polypeptide
Human polypeptide
Novel human secret
                                                                                                                                                                         polypeptide
polypeptide
polypeptide
human secret
                                                                                                                                                                                                                                                                                                                                                                                                                    polypeptide
human secret
polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-enco
n diagno
                                                                                                                                                                                                          Novel human secret
Human ovarian anti
Human reproductive
                                                                                                                                                                                                                                                                                                               polypeptide
reproductive
                                                                                                                                                                                                                                                                                                                                                                                                                                                   polypeptide
polypeptide
polypeptide
                                                Novel human diagno
Human polypeptide
                                                                                                                                                        human diagno
human diagno
                                                                                                                                                                                                                                                                                                                                                                                                           human diagno
                                                                     cancer assoc
ORFX ORF3056
                                                                                          protein segu
human diagno
                                                                                                                human secret
                                                                                                                                   protein sequ
polypeptide
                                                                                                                          immune/haema
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene 2
human
                              Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                     Human
Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human
Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human
Human
Novel
                                                                                                                                   Human
                                                                                                                                                                                                                                                                                                                                                                                                                     Human
Novel
Human
Human
                                                                                                                                                        Novel
Novel
Human
                                                                                          Human
Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human
                                                                                                                          Human
                                                                                                                                                                                                                                                                                                                                                                                                           Novel
                                                                                                                Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALIGNMENTS
SUMMARIES
                                                                                                                                                       ABG11938
ABG09800
AAM41856
                                                                                                                                                                                                                                         AAM42316
ABG68710
AAE14727
                                                                                                                                                                                                                                                                       AAY19767
ABG11932
AAO05621
AAM86602
                                                                                                                                                                                                                                                                                                                                             AAB42412
AAU30185
AAG78806
AAO01382
                                                                                                                                                                                                                                                                                                                                                                                     AA008280
AAU29521
ABG08228
AA008563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel human diagnostic protein #16997.
                                                                                                                                                                                     AAO05250
AAO09035
                                                                                                                                                                                                                                                                                                               AAO02094
AAM96266
                                                                                                                                                                                                                              AAM96287
                                                                                                                                                                                                                                                                                                                                                                                                                                          AA011772
                                                                     AAB43997
                                                                                                                                             AA012441
                                                                                                                                                                                                                                                                                                                                    AAM42307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABG17006 standard; Protein; 251
                                                   18-FEB-2002 (first entry)
                             Length
                                                  251
75
1103
1110
1116
1137
407
80
118
42
42
89
                                                                                                                                                                                     Query
Match
                                                            WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-OCT-2001
                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABG17006;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABG17006
                                                                                          Result
                               õ
                                                   υo
                                                                                                                                                                                                                                                                                                                                                           000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Command line parameters:
-MODEL-frame+_n2p.model -DEV=xlp
-MODEL-frame+_n2p.model -DEV=xlp
-Q-/cgn2_1/USPTC_spool/US09966880/runat_14062003_175620_11018/app_query.fasta_1.5703
-Q-/cgn2_1/USPTC_spool/US09966880/runat_1102p.rag -WINMATCH=0.1 -LOOPCL=0
-LOOPEXT=0 -UNITS-bits -START=1 -END=-1 -MATRIX-oligo -TRANS-human40.cdi
-UST=45 -DOCALIGN=200 -THR_SCORE-quality -TRR_MIN1 - ALIGN=15 -MODE-LOCAL
-USTR-45 -DOCALIGN=200 -THR_SCORE-QUALUEN-0 -MAXIEN=200000000
-USER-US09966880_@CGN_1_1_379_@runat_14062003_175620_11018 -NCPU=6 -ICPU=3
-NO_WARP -LARGEQUERY -NEG_SCORES-0 -WAIT -DSPBHICK=100 -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THRRADS-1 -XGAPDP=60 -XGAPEXT=60 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=60 -YGAPEXT=60 -DELEXT=7
                                                                                (without alignments)
6634.257 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            A_Geneseq_101002:*

1: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1980.DAT:*

2: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*

3: /SIDS2/gcgdata/geneseqy-embl/AA1982.DAT:*

4: /SIDS2/gcgdata/geneseqy-embl/AA1983.DAT:*

5: /SIDS2/gcgdata/geneseqy-embl/AA1983.DAT:*

6: /SIDS2/gcgdata/geneseqy-embl/AA1985.DAT:*

7: /SIDS2/gcgdata/geneseqy-embl/AA1985.DAT:*

8: /SIDS2/gcgdata/geneseqy-embl/AA1987.DAT:*

9: /SIDS2/gcgdata/geneseqy-embl/AA1987.DAT:*

9: /SIDS2/gcgdata/geneseqy-embl/AA1988.DAT:*

10: /SIDS2/gcgdata/geneseqy-embl/AA1988.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | SIDS2/godata/geneseq/geneseqp-embL/AA1990.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1991.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1991.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1992.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1993.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1994.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1995.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1995.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1999.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1999.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1999.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA1999.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA2000.DAT:
| SIDS2/godata/geneseq/geneseqp-embL/AA2001.DAT:
                                                                                                                                    1 acagacgaatacatggtcca.....tcaaactcctgacctcagag 5514
                                                                     ; Search time 221.5 Seconds
         GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd
                                                  protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                    908470 segs, 133250620 residues
                                                                                                                                                                                                                                                                                                                 Post-processing: Listing first 45 summaries
                                                                                                                                                                  60.0
60.0
7.0
7.0
                                                                     June 14, 2003, 18:30:49
                                                                                                                                                                  ), Xgapext 6
), Ygapext 6
), Fgapext
), Delext
                                                                                                                                                                                                                                                                                  length: 0
length: 2000000000
                                                                                                              US-09-966-880A-9
1736
                                                                                                                                                                0.09
                                                                                                                                                                  Xgapop (
Ygapop (
Fgapop
Delop
```

Minimum DB seq Maximum DB seq

Word size:

Searched:

Title: Perfect score:

Sequence:

OM nucleic

Run on:

Scoring table:

Database :

```
The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity activity and activity and activity and activity and activity activity activity and activity activity and activity activity and activity 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; cancer associated gene; cancer antigen; detection; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 20; SEQ ID NO 16132; 1399pp + Sequence Listing; English.
  tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human cancer associated protein sequence SEQ ID NO:1442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-966-880A-9 (1-5514) x AAO02240 (1-75)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB43997 standard; Protein; 103 AA.
                                                                                                                                                                                                                                                                                                                                                                                  Tang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                                  26-FEB-2001; 2001WO-US04927.
                                                                                                                                                                                                                                                              28-FEB-2000; 2000US-0515126.
18-MAY-2000; 2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9.03e-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22.00
100.00%
100.00%
1.27%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3563 ACCTGG 3558
                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-514838/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                    (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       75 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; AAI82171
                                                                                                                      WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-FEB-2001
                                                                                                                                                                    07-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB43997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAB43997
    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EXEXEX XXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                               polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (III). The polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (III). The polymucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques for restore normal activity of (III) or to treat disease states involving (III). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in itssue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) are useful in medical disorders involving aberrant protein expression or biological activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity
                                                                                                                                                                                                                                                                                                                                                                                                                                                 invention relates to isolated polynucleotide (I) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                251
39
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                              Claim 20; SEQ ID No 47365; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-966-880A-9 (1-5514) x ABG17006 (1-251)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA002240 standard; Protein; 75 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human polypeptide SEQ ID NO 16132.
                                                                                                                                                                  Tang YT;
30-MAR-2001; 2001WO-US08631
                                           2000US-0540217
2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      39.00
100.00%
100.00%
2.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.1e-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-NOV-2001 (first entry)
                                                                                                                                                               Drmanac RT, Liu C,
                                                                                                                                                                                                           WPI; 2001-639362/73.
N-PSDB; AAS81193.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            251 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
                                                                                                                    (HYSE-) HYSEQ INC
                                           31-MAR-2000;
                                                                   23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAO02240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local S
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAO02240
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EXXEX DX X
```

Conservative: Mismatches:

Indels: Gaps:

Matches: Length:

AAB43292 standard; Protein; 110 AA.

RESULT 4 AAB43292 AAB43292;

```
AACT7607 to AAC7848 encode the human cancer associated proteins given in AAB43398 to AAB44239. The proteins can have activities based on the tissues and cells the genes are expressed in. Example of activities include: cytostatic; antiferative; vulnerary; immunomodulator; antifidabetic; antiasthmatic; antifilementor; antibacterial; antiasthmatic; antifilementor; antibacterial; antivitie; antifilementory; antipyroid; antiallergic; antibacterial; antiviral; dermatological; neuroprotective; cardiant; thrombolytic; coagulant; cootropic; antipsoriatic and antiangiogenic. The polynucleotides and polypeptides can be used for preventing, treating or ameliorating medical conditions and diagnosing pathological conditions. Polynucleotides, polypeptides, antibodies, agonists and antagonists from the present invention may be used to treat immune disorders by activating or inhibiting the proliferation, differentiation or mobilisation of immune cells, to treat disorders of haematopoietic cells, autoimmune disorders, allergic reactions, graft versus host disease and organ rejection, modulate haemostatic or thrombolytic activity, modulate continuation, cancers, cardiovascular disorders, neucleotides, antibodies, agonists and antagonists may be also be used in drug screens. AAC78449 to the present sequences used in the exemplification of
                  antidiabetic; antiasthmatic; antinheumatic; antiathritic; antiviral; antidiabetic; antithyroid; antiallergic; antibacterial; cardiant; dermatological; neuroprotective; thrombolytic; coagulant; nootropic; vasotropic; antipsordatic; antiangingenic; gene therapy; inflammation; immune disorder; haematopoletic cell disorder; autoimmune disorder; haematopoletic cell disorder; autoimmune disorder; haemostatic; cardiov; cardiovascular disorder; infection; neurological disease; drug screening.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel isolated nucleic acids comprising sequences encoding peptides useful for treating or diagnosing e.g. cancer -
    proliferative; vulnerary; immunomodulator;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 11; Page 2126; 2352pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                             99US-0124270.
                                                                                                                                                                                                                                                                                                                                                                08-MAR-2000; 2000WO-US05882.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rosen CA, Ruben SM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2000-587533/55.
N-PSDB; AAC78206.
                                                                                                                                                                                                                                                                       WO200055350-A1.
                                                                                                                                                                                                                               sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                             12-MAR-1999;
                                                                                                                                                                                                                                                                                                                    21-SEP-2000.
                                                                                                                                                                                                                             Ношо
```

```
103
22
0
0
0
                      Length:
Matches:
Conservative:
Mismatches:
                                                        Indels:
                                                                Gaps:
                                                                               US-09-966-880A-9 (1-5514) x AAB43997 (1-103)
                        8.64e-12
                               22.00
100.00%
100.00%
1.27%
                                                                                                                                5508 CTCAGA 5513
                                                                                                                                              102 LeuArg 103
103 AA;
                                       Percent Similarity:
Best Local Similarity:
                Alignment Scores:
 Sequence
                                                        Query Match:
                       Pred. No.:
                                 Score:
                                                                                                                g
                                                                                                                                              g
                                                                                                ò
                                                                                                                                ò
```

```
AAC74446 to AAC77606 encode the proteins given in AAB40237 to AAB43397,
which represent the human ORFX open reading frames 1 to 3161. The ORFX
sequences have activities such as: cytostatic; hepatotropic; vulnerary;
sequences have activities such as: cytostatic; hepatotropic; vulnerary;
contipporiatic; antiparkinsonian; noctropic; neuroprotective;
coteopathic; anticonvulsant; antiarthritic; immunosuppressant;
lmmunostimulant; cardiant; thrombolytic; coaquiant; vasotropic;
antidiabetic; hypotensive; dermatological; immunosuppressive;
antidiabetic; hypotensive; dermatological; intidiapetic; and electrining
the presence of or predisposition to, or preventing or treating
the presence of or predisposition to, or preventing or treating
the presence of or predisposition to, or preventing or treating
nucleic acids can be used to express ORFX proteins in gene therapy
cetors. The proteins and nucleic acids may be used to treat cancers,
proliferative disorders, neurodegenerative disorders, osteoarthritis,
graft vs host disease, cardiovascular disease, diabetes mellitus,
crythematosus, severe combined immunodeficiency (SCID), AIDS, viral,
bacterial or fungal infection, malaria, auticimmune disorders, asthma,
allergies, aplastic anaemia, while humoslobinuria, antilifammatory disease; to enhance
coagulation; to inhibit thrombosis; and as a contraceptive.
                                                                                                                                             Human; open reading frame; ORFX; detection; cytostatic; hepatotropic; vulnerary; antipsoriatic; antiparkinsonian; nootropic; neuroprotective; anticonvulsant; osteopathic; antiarthritic; immunosuppressant; cardiant; immunostimulant; thrombolytic; coagulant; vasotropic; antidiabetic; hypotensive; dermatological; immunosuppressive; antiinflammatory; antidiabeterial; antifungal; antirheumatic; antithyroid; antidianemic; gene therapy; cancer; prolliferative disorder; hypertension; neurodegenerative disorder; osteoarthritis; graft vs host disease; cardiovascular disease; diabetes mellitus; hypothyroidism; SCID; AIDS;
                                                                                                                                                                                                                                                                                                                                                                             cholesterol ester storage; systemic lupus erythematosus; infection; severe combined immunodeficiency; malaria; autoimmune disorder; asthma; allergy; aplastic anaemia; nocturnal haemoglobinuria; burn; wound; bone damage; cartilage damage; antiinflammatory disease; coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel nucleic acids and peptides derived from open reading frame X, useful for treating e.g. cancers, proliferative disorders, neurodegenerative disorders and cardiovascular disease -
                                                                                             Human ORFX ORF3056 polypeptide sequence SEQ ID NO:6112.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 11; Page 5297-5298; 5507pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31-MAR-2000; 2000WO-US08621.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31-MAR-1999; 99US-0127607.
02-APR-1999; 99US-0127636.
05-APR-1999; 99US-0127728.
30-MAR-2000; 2000US-0540763.
                                             08-FEB-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          thrombosis; contraceptive.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shimkets RA, Leach M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CURA-) CURAGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2000-602362/57.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; AAC77501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200058473-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-OCT-2000
```

```
ACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drmanac RT, Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-639362/73
                                                                                                                                                                                                                                                                                                                   71 ThrSer 72
                                                                                                                    116 AA;
                                                                                                                                                                                     Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; AAS83564.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200175067-A2.
                                                                                                                                                                         Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         biodiversity
                                                                                                                                          Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11-OCT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                            18-FEB-2002
                                                                                                                                                                                                                                                                                               5506
                                                                                                                                                                                                                                                                                                                                                                                      ABG19377;
                                                                                                                      Seguence
                                                                                                                                                                                               Query Match:
                                                                                                                                                                                      Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ношо
                                                                                                                                                                                                                                                                                                                                                     ABG19377
                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                           0000000000000xx
                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                ò
                                                                                                                                          5448 IGTATITITAGIAGAGAIGGGGITICACCAIGIIGGCCAGGCIGGICICAAACICCIGAC 5507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present invention describes primer sets for synthesising 5602 full-length cDNAs defined in the specification. Where a primer set comprises: (a) an oligo-dT primer and an oligonucleotide complementary to the complementary strand of a polynucleotide which comprises one of the 5602 nucleotide sequences defined in the specification, where the oligonucleotide comprises at least 15 nucleotides; or (b) a combination of an oligonucleotide comprises at sequence complementary to the complementary strand of a polynucleotide which comprises a 5'-end sequence and an oligonucleotide comprises a 3'-end sequence complementary to a polynucleotide which comprises a 1'-end sequence the oligonucleotide sequence and an oligonucleotide comprises a 1'-end sequence is selected from those defined in
                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Primer sets for synthesizing polynucleotides, particularly the 5602 full-length cDNAs defined in the specification, and for the detection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs -
                                                                                                                                                      Human; primer; detection; diagnosis; antisense therapy; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Yamamoto J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Saito K, Ya
Otsuki T;
                                        1110
22
0
0
0
0
                                                               Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 8; SEQ ID 12312; 2537pp + CD ROM; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Isogai T, Nishikawa T, Hayashi K, S:
. Suqiyama T, Wakamatsu A, Nagai K,
                                                      Matches:
                                          Length:
                                                                                                  Gaps:
                                                                                                                    (1-110)
                                                                                                                                                                                                                                                                                                                      Human protein sequence SEQ ID NO:12312.
                                                                                                                                                                                                                                                     AAB93273 standard; Protein; 116 AA.
                                                                                                                    US-09-966-880A-9 (1-5514) x AAB43292
                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-JUL-1999; 99JP-0248036.
27-ANG-1999; 99JP-0300253.
01-ANG-2000; 2000JP-0118776.
02-MAY-2000; 2000JP-0241899.
                                                                                                                                                                                                                                                                                                                                                                                                                                  28-JUL-2000; 2000EP-0116126
                                                   22.00
100.00%
100.00%
1.27%
                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (HELI-) HELIX RES INST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ishii S, Sugiyama T,
                                                                                                                                                                                     CTCAGA 5513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-318749/34.
                                                                                                                                                                                                           LeuArg 83
           ¥.
                                                                           Best Local Similarity:
          110
                                                               Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                       EP1074617-A2
                                Alignment Scores:
                                                                                                                                                                                                                                                                                                26-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                          07-FEB-2001
          Sequence
                                                                                                                                                                                      5508
                                                                                                                                                                                                                                                                           AAB93273;
                                                                                                                                                                                                          82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ota T,
                                                                                      Query Match
                                                                                                                                                                                                                                          AAB9327
                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                      ð
                                                                                                                                           ò
```

```
the specification. The primer sets can be used in antisense therapy and in gene therapy. The primers are useful for synthesising polynucleotides, particularly full-length cONAs. The primers are also useful for the detection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs. The primers allow obtaining of the full-length cDNAs easily without any specialised methods. AAH03166 to AAH1368 and AAH13633 to AAH18742 represent human cDNA sequences; AAB92446 to AAB95893 represent human amino acid sequences; and AAH13629 to AAH13632 represent oligonucleotides, all of which are used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           116
22
0
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             claim 20; SEQ ID No 49736; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-966-880A-9 (1-5514) x AAB93273 (1-116)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel human diagnostic protein #19368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABG19377 standard; Protein; 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tang YT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31-MAR-2000; 2000US-0540217.
23-AUG-2000; 2000US-0649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-MAR-2001; 2001WO-U908631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22.00
100.00%
100.00%
1.27%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                          of the present invention.
```

```
for identifying expressed genes. (1) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics forensics, gene mapping, identification of mutations and to produce other types of data and products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human and diagnostic manner of sequences of the invention.
                                                                                                                                                                                                                Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic acids encoding a range of human polypeptides, useful in genetic vaccination, testing and therapy -
 polynucleotides are also used in diagnostics as expressed sequence tags
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; vaccination; gene therapy; nutritional supplement;
stem cell proliferation; haematopoiesis; nerve tissue regeneration;
Immune suppression; immune stimulation; anti-inflammatory; leukaemia.
                                                                                                                                                                                                                                                                                                                           137
22
0
0
0
0
                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                           Indels:
                                                                                                                                                                                                                                                                                                                                                                                                         Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-966-880A-9 (1-5514) x ABG19377 (1-137)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAU30450 standard; Protein; 407 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 20; Page 294; 765pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel human secreted protein #941.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Drmanac RT;
                                                                                                                                                                                                                                                                                                                        8.31e-12
22.00
100.00$
100.00$
1.27$
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-APR-2001; 2001WO-US08656.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-APR-2000; 2000US-0552929.
26-JAN-2001; 2001US-0770160.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3619 CTTGAG 3624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-611725/70.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84 LeuGlu 85
                                                                                                                                                                                                                                                                            137 AA;
                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200179449-A2.
                                                                                                                                                                                                                                                                                                                                                          Percent Similarity
                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-OCT-2001
                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAU30450;
                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                                                             Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ношо
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAU30450
                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
```

```
5505
                                                                                                                                                                                                                            physiological interactions of the polypeptide. Vectors comprising the nucleic acids encoding the polypeptides and cells genetically engineered to express them are also useful for producing the proteins. The proteins are useful in genetic vaccination, testing and therapy, and can be used as nutritional supplements. They may be used to increase stem cell proliferation; to regulate haematopoiesis and in bone, cartilage, tendon and/or nerve tissue growth or regeneration; immune suppression and/or stimulation; as anti-inflammatory agents; and in treatment of leukaemias. AAU29510-AAU33304 represent the amino acid sequences of novel human secreted proteins of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     82
                                                  polypeptides and antibodies to the polypeptides are useful for determining the presence of or predisposition to a disease associated with altered levels of polypeptide. The polypeptides are also useful for identifying agents (agonists and antagonists) that bind to them. Cells expressing the proteins are useful for identifying a therapeutic agent for use in treatment of a pathology related to aberrant expression or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5446 TTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63 PhevalPheLeuValGluMetGlyPheHisHisValGlyGlnAlaGlyLeuLysLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; immune; haematopoietic; immune/haematopoietic antigen; cancer; cytostatic; gene therapy; vaccine; metastasis.
                            The invention relates to novel human secreted polypeptides. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             407
22
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human immune/haematopoietic antigen SEQ ID NO:14452.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-966-880A-9 (1-5514) x AAU30450 (1-407)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAM86859 standard; Protein; 80 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7.15e-12
22.00
100.00%
100.00%
1.27%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0179065
2000US-0180628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0189874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-JAN-2001; 2001WO-US01354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0184664
2000US-0186350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0190076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0198123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0205515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0214886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0215135
2000US-0216647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0216880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0209467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5506 ACCTCA 5511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          83 ThrSer 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    407 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200157182-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-MAR-2000;
17-MAR-2000;
18-APR-2000;
19-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-FEB-2000;
02-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-JUN-2000;
07-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-AUG-2001,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAM86859;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAM86859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     THE PERMITTER PRINCE OF THE PERMITTER PERMITTE
```

```
20000S-0218290
2000US-0220963.
2000US-0220964.
2000US-0224518.
2000US-022513.
2000US-0225213.
                                                                                                                               2000US-0225266.
2000US-0225267.
2000US-0225268.
2000US-0225270.
2000US-0225447.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 20000S-0231242.
20000S-0231243.
20000S-0231244.
20000S-0231413.
2000US-0231413.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20000S-0232397
20000S-0232398
20000S-0232400
20000S-0232401
20000S-0232401
20000S-0233063
20000S-0233063
20000S-0233065
20000S-0234274
                                                                                                                                                                                                                                                                                                                                                                             2000US-0229345.
2000US-0229509.
2000US-0229513.
2000US-0230437.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0232080.
2000US-0232081.
2000US-0231968.
                                                                                                                                                                                                      2000US-0225757.
2000US-0225758.
2000US-0225759.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0234998.
2000US-0235484.
2000US-0235834.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0235836.
2000US-0236327.
2000US-0236367.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0236368.
2000US-0236369.
2000US-0236370.
                                                                                                                                                                                                                                                                                                                                                  2000US-0229343
2000US-0229344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0237040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0236802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0237039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0241809
2000US-0241809
11-JUL-2000; 26-JUL-2000; 26-JUL-2000; 26-JUL-2000; 26-JUL-2000; 26-JUL-2000; 26-JUL-2000; 26-JUL-2000; 26-JUL-2000; 26-JUL-2000; 20-JUL-2000; 20-JU
```

```
20000S - 0244617
20000S - 0246474
20000S - 0246477
20000S - 0246578
20000S - 0246528
20000S - 0246613
20000S - 0249218
20000S - 024928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0251479.
2000US-0251856.
2000US-0251868.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0251988
2000US-0256719
                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0250391
                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0251030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2001US-0259678
20 - OCT - 2000)
01 - NOV - 2000)
08 - NOV - 2000)
17 - NOV - 2000)
                                                                                                                                                                                                                                                                                                                                         17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                 117-NOV-2000;
17-NOV-2000;
11-DEC-2000;
01-DEC-2000;
05-DEC-2000;
05-DEC-2000;
06-DEC-2000;
06-DEC-2000;
08-DEC-2000;
08-DEC-2000;
08-DEC-2000;
                                                                                                                                                                                                                                                                                    17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                          17-NOV-2000;
                                                                                                                                                                                                                                                                                                                     17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-JAN-2001;
```

(HUMA-) HUMAN GENOME SCI INC

Rosen CA, Barash SC,

Ruben

WPI; 2001-483426/52. N-PSDB; AAK59640.

Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis. metastasis

Claim 11; SEQ ID NO 14452; 3071pp + Sequence Listing; English

AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (I) amino acid sequences given in AAM82170 to AAM91921. (I) have cytostatic activity, and can be used in gene therapy and vaccine production. (I) proteins and polynucleotides may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate (I) expression. For example, they may be used to treat disorders associated with decreased extression by rectifying mutations or deletions in a patient's genome that affect the activity of (I) by expressing linacitve proteins or to supplement the patients own production of (I). Additionally, (I)

```
Isolated nucleic acids and polypeptides, useful for preventing
                                                                                                                                                                                                                                                                                                                                                                                                                                              $$$$$$$$$$$$$$$$$$$$$$$$
                                                                                                                                                                                                                                                                                                                                     δλ
                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                           polynucleotides may be used to produce the secreted (1), by inserting the nucleic acids into a host cell and culturing the cell to express the protein. (1) proteins and polynucleotides may be used to prevent, diagnose and treat immune/haematopoietic-related diseases, especially cancers and cancer metastases of haematopoietic antigen genomic to AAK87694 represent human immune/haematopoietic antigen genomic sequences from the present invortion. AAK54912 to AAK54950 and AAW8169 represent sequences used in the exemplification of the present invention.
                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention describes primer sets for synthesising 5602 full-length cDNs defined in the specification. Where a primer set comprises: (a) an oligo-dr primer and an oligonucleotide complementary to the complementary strand of a polynucleotide which comprises one of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               detection
by the
                                                                                                                                                                                                                                       Human; primer; detection; diagnosis; antisense therapy; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Yamamoto J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Primer sets for synthesizing polynucleotides, particularly the full-length cDNAs defined in the specification, and for the det and/or diagnosis of the abnormality of the proteins encoded by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saito K, Ya
Otsuki T;
                                                                                                                               0001000
                                                                                                                                                  Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 8; SEQ ID 13871; 2537pp + CD ROM; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A, Nagai K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hayashi K,
                                                                                                                               Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                  Human protein sequence SEQ ID NO:13871.
                                                                                                                                                                                                      US-09-966-880A-9 (1-5514) x AAM86859 (1-80)
                                                                                                                                                                                                                                                                                                                                   AAB93908 standard; Protein; 118 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wakamatsu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isogai T, Nishikawa T,
                                                                                                                             8.24e-11
21.00
100.00%
100.00%
1.21%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-AUG-1999; 99JP-0300253.
11-JAN-2000; 2000JP-0118776.
02-MAY-2000; 2000JP-0183767.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-JUL-2000; 2000EP-0116126.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99JP-0248036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09-JUN-2000; 2000JP-0241899
                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (HELI-) HELIX RES INST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sugiyama T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-318749/34.
                                                                                                                                                             Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    full-length cDNAs
                                                                                               80 AA;
                                                                                                                                                                                                                                                                     GAG 3624
                                                                                                                                                                                                                                                                                          63
                                                                                                                                                  Percent Similarity
                                                                                                                                                                                                                                                                                       G]u
                                                                                                                                                                                                                                                                                                                                                                                                                                                               EP1074617-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                             26-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-FEB-2001
                                                                                                                                                                                                                                                                     3622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ishii S,
                                                                                                                                                                                                                                                                                                                                                        AAB93908;
                                                                                                 Seguence
                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                         Duery Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ota T,
                                                                                                                              Pred. No.:
                                                                                                                                                                                                                                                                                                                         AAB93908
                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                         Score:
  8×8666666688
                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                              ò
```

```
the 5602 nucleotide sequences defined in the specification, where the oligonucleotide comprises at least 15 nucleotides; or (b) a combination of an oligonucleotide comprising a sequence complementary to the complementary strand of a polynucleotide which comprises a 5'-end sequence complementary to a polynucleotide which comprises a 3'-end sequence complementary to a polynucleotide which comprises a 3'-end sequence complementary to a complementary comprises a 1'-end sequence, where the comprises at least 15 nucleotides and the combination of the 5'-end sequence/3'-end sequence is selected from those defined in the specification. The primers are useful for synthesising polynucleotides, particularly full-length cDNAs. The primers are also useful for the full-length cDNAs. The primers are also useful for the full-length cDNAs. The primers are also useful for the full-length cDNAs. The primers are also useful for the full-length cDNAs. The primers allow obtaining of the full-length cDNAs represent human cDNA sequences; AAH33628 and AAH33633 to AAH3633 to AAH3633 to AAH3633 to AAH3633 to AAH3633 to represent human amino acid sequences; and AAH3632 to AAH3633 to represent human end of sequences; and AAH3632 to AAH3633 to represent human amino acid sequences; and AAH3632 to AAH3633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopolesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      118
21
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-966-880A-9 (1-5514) x AAB93908 (1-118)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human polypeptide SEQ ID NO 26333.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAO12441 standard; Protein; 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-FEB-2000; 2000US-0515126.
18-MAY-2000; 2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7.81e-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21.00
100.00%
100.00%
1.21%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tang YT, Liu C, Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-514838/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                118 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5508 CTC 5510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (HYSE-) HYSEO INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; AAI92372.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  71 Leu 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200164835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA012441;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sednence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 10
```

```
ABG09800;
                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                        Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human;
                                                                                                                                                                                                                                                                                                                                                                                                                                             g
  \mathbf{x}
                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                              The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                         Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
diagnosing and treating e.g. leukaemia, inflammation and immune
                                English.
                                Claim 20; SEQ ID NO 26333; 1399pp + Sequence Listing;
                                                                                                                                                                                                                                                00000
                                                                                                                                                                                                                                                                    Conservative:
                                                                                                                                                                                                                                                                                Mismatches:
Indels:
                                                                                                                                                                                                                                               Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              claim 20; SEQ ID No 42297; 103pp; English.
                                                                                                                                                                                                                                                                                                     Gaps:
                                                                                                                                                                                                                                                                                                                        US-09-966-880A-9 (1-5514) x AAO12441 (1-36)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel human diagnostic protein #11929
                                                                                                                                                                                                                                                                                                                                                                                                           ABG11938 standard; Protein; 42 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YT;
                                                                                                                                                                                                                                                8.47e-10
                                                                                                                                                                                                                                                         20.00
100.00%
100.00%
1.15%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-MAR-2000; 2000US-0540217
23-AUG-2000; 2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-639362/73.
N-PSDB; AAS76125.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drmanac RT, Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                Similarity:
                                                                                                                                                                                                                  Ą;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200175067-A2
                                                                                                                                                                                                                  36
                                                                                                                                                                                                                                                                     Percent Similarity:
                                                                                                                                                             inflammation.
                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           biodiversity
                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11-0CT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                  ABG11938;
                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                  15
                                                                                                                                                                                                                                                                                           Query Match:
                                                                                                                                                                                                                                                                                 Best Local
                                                                                                                                                                                                                                                                                                                                                                                                    ABG11938
                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                           Score:
  õ
```

```
polypeptide (II) sequences. (I) is useful as hybridisation probes, polypeptide (II) sequences. (I) be useful as hybridisation probes, polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The and gene are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving (II). (II) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in the polypeptide and polynucleotide sequences have applications in disorders forensics, genemapping, identification of mutentions and to produce other types of data and products dependent on DNA and amino acid sequences. ABG0010-ABG30377 represent novel human amino acid sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from MIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       forensic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; chromosome mapping; gene mapping; gene therapy; forensic food supplement; medical imaging; diagnostic; genetic disorder.
invention relates to isolated polynucleotide (I) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                400000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-966-880A-9 (1-5514) x ABG11938 (1-42)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel human diagnostic protein #9791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABG09800 standard; Protein; 89 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tang YT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-MAR-2000; 2000US-0540217.
23-AUG-2000; 2000US-0649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-MAR-2001; 2001WO-US08631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8.3e-10
20.00
100.00%
100.00%
1.15%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-FEB-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-639362/73.
N-PSDB; AAS73987.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40200175067-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Aliqnment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drmanac RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11-OCT-2001
```

```
29-NOV-2000; 2000US-0727344
        19-OCT-2000; 2000US-0693036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                         υ,
A,
A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAO05250;
                                                                                                                                                                                                           lang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match:
                                                                                                                                                                                                                                                 Wang
                                                                                                                                                                                                                                                                                               Zhao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA005250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred.
        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The inversion leaders to isolated polymortectice (1) and polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The and gene mapping, and in recombinant production of (II). The cand gene mapping, and in recombinant production of (II). The cand gene mapping expressed genes. (1) is useful in gene therapy techniques (2) restore normal activity of (II) is useful in gene therapy techniques (2) or restore normal activity of (II) or to treat disease states involving (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations crasponsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and condidance amino acid sequences of the invention.

Calagnostic anno acid sequences of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human, nootropic; immunosuppressant; cytostatic; gene therapy; cancer; peripheral nervous system; neuropathy; central nervous system; CNS; Alzheimer's; Parkinson's disease; Huntington's disease; haemostatic; amyotrophic lateral sclerosis; Shy-Drager Syndrome; chemotactic; chemokinetic; thrombolytic; drug screening; arthritis; inflammation;
                                                                                                                                                              The invention relates to isolated polynucleotide (I) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                00000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ftp.wipo.int/pub/published_pct_sequences
                                                                               SEQ ID No 40159; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-966-880A-9 (1-5514) x ABG09800 (1-89)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAM41856 standard; Protein; 125 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human polypeptide SEQ ID NO 6787.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0598042.
2000US-0620312.
2000US-0653450.
2000US-0662191.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7.48e-10
20.00
100.00%
100.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-DEC-2000; 2000WO-US34263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0488725
2000US-0552317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-OCT-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   89 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200153312-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-JUL-2000;
03-AUG-2000;
14-SEP-2000;
biodiversity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-APR-2000;
09-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               eukaemia.
                                                                                   Claim 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAM41856;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAM41856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \texttt{F} \overset{\times}{\times} \texttt{S} \overset{\times}{\times} \texttt{S} \overset{\wedge}{\times} \overset{\wedge}{
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
The invention relates to human nucleic acids (AAIS7798-AAI61369) and the encoded polypeptides (AAAM36642213) with nootropic, immunosuppressant and cytostatic activity. The polynucleotides are useful in gene therapy. A composition containing a polypeptide or polynucleotide of the invention may be used to treat diseases of the peripheral nervous system, such as peripheral nervous injuries, peripheral nervous contained on enuropathies and central nervous system diseases, such as alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis, and Shy-Drager Syndrome. Other uses include the utilisation of the activities such as: Immune system suppression, continingular activity, chemotactic/chemotimetic activity, haemostatic and thrombolytic activity, cancer diagnosis and therapy, drug screening, assays for receptor activity, arthritis and inflammation, leukaemias and contern who cannot a disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5449 GTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGACC 5508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90 ValPheLeuValGluMetGlyPheHisHisValGlyGlnAlaGlyLeuLysLeuLeuThr 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopolesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Note: The sequence data for this patent did not form part of the printed specification.
                                                        Wang D;
                                                                                                                                                                                                                                                       Novel nucleic acids and polypeptides, useful for treating disorders such as central nervous system injuries -
                                                        Ren F, W.
Zhang J;
                                                        Qian XB,
Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               125
20
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches:
Conservative:
Mismatches:
                                                  Chen R, Ma Y,
Xu C, Xue AJ,
R, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                              Example 2; SEQ ID NO 6787; 10078pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-966-880A-9 (1-5514) x AAM41856 (1-125)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human polypeptide SEQ ID NO 19142.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAO05250 standard; Protein; 41 AA.
                                                  Liu C, Asundi V, Che
lang Z, Wehrman T, Xi
Zhou P, Goodrich R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7.14e-10
20.00
100.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.15%
                                                                                                                                                                    WPI; 2001-442253/47.
N-PSDB; AAI61012.
                                                                                   Wang Z, V
Zhou P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA;
(HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200164835-A2.
```

```
Search completed: June 14, 2003, 19:16:33 Job time: 234.5 secs
  (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                           The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine. cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or epstide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, hematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity, inhibin activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation.
                                                                                                                                                                                                                                                                                                                                                            Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3614 CCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCACCACCACCTGG 3558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                  Claim 20; SEQ ID NO 19142; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          41
00
00
00
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-966-880A-9 (1-5514) x AAO05250 (1-41)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human polypeptide SEQ ID NO 22927.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAO09035 standard; Protein; 55
                                                                Tang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      7.67e-09
19.00
100.00$
100.00$
1.09$
28-FEB-2000; 2000US-0515126
18-MAY-2000; 2000US-0577409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-FEB-2000; 2000US-0515126.
18-MAY-2000; 2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-NOV-2001 (first entry)
                                                                                         WPI; 2001-514838/56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
                                      (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                  A,
                                                                                                         N-PSDB; AAI85181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200164835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo saptens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                            disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAO09035;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA009035
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred.
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
```

```
The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, manuomodulatory activity and activity, tissue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3303 GTCTTGAACTCCTGGGCTCAAGCAATCCTCCTGCCTTGGCCTCCCAAAGTGTTGGGA 3359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                  Claim 20; SEQ ID NO 22927; 1399pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0 0 0 0 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-966-880A-9 (1-5514) x AAO09035 (1-55)
Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7.36e-09
19.00
100.008
100.008
1.098
                                                  WPI; 2001-514838/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55 AA;
                                                                               N-PSDB; AAI88966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34
Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
```

Scoring table:

OM nucleic

Run on:

Minimum DB Maximum DB

Database

٠ ي Result

Word size: Searched:

```
Sequence 111, App Sequence 111, App Sequence 133, App Sequence 137, App Sequence 180, App Sequence 180, App Sequence 280, App Sequence 180, App Sequence 1013, App Sequence 202, App Sequence 129, App Sequen
Sequence 1350, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1026, Ap
Sequence 352, App
Sequence 171, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1442, Application US/09925301
Fatent No. US20020652308A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
FILE REFERENCE: PA106
CURRENT APPLICATION NUMBER: US/09/925,301
CURRENT FILING DATE: 2001-08-10
FRIOR FILING DATE: 2000-03-08
FRIOR FILING DATE: 2000-03-08
FRIOR FILING DATE: 1999-03-12
FRIOR APPLICATION NUMBER: 60/124,270
FRIOR APPLICATION NUMBER: 60/124,270
FRIOR SEC ID NOS: 1694
SOFTWARE: PATENTIN Ver. 2.0
                                                                     0.5.10-082-830-2077
0.05-09-925-297-833
0.05-09-925-297-833
0.05-09-764-891-4886
0.5.10-078-090-150
0.5.10-078-090-150
0.5.10-09-189-910-105
0.5.10-09-986-480-282
0.5.10-001-873-33
0.05-09-986-480-282
0.5.10-001-873-33
0.5.10-001-873-33
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
0.5.10-001-873-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-764-878-129
US-09-764-860-464
US-09-925-299-1026
US-09-925-299-1026
US-09-986-480-352
US-09-983-802-171
                 US-09-820-843A-111
US-09-764-891-3289
US-09-908-711-115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            any of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; LOCATION: (3); OTHER INFORMATION: Xaa equals US-09-925-301-1442
000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens
 TYPE: PRT
ORGANISM: HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 1
US-09-925-301-1442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 1442
LENGTH: 103
 LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
 000
                                                                                                                                                                                 ບບ
                                                                                                                                                                                                                                                                                                                                                                                                                            υo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        υυ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               υ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         υ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -MODEL-frame+_n2p.model -DEV-x1p
-MODEL-frame+_n2p.model -DEV-x1p
-Q-/cgn2_1/USTPTO_spool_1/USO9966880/runat_14062003_175623_11119/app_query.fasta_1.5703
-DB-published_Applications_AA -GPMT-fastan -SUFFIX-olin2p.rapb -MINMATCH-0.1
-LOOPCL-0 -LOOPEXT-0 -UNITS-bits -START-1 -END=-1 -MATRIX-oligo
-TRANS-human40 cd1 -LIST-45 -DOCALIGN-200 +THE_SCORE=quality -THR_NIN-1
-ALIGN-15 -MODE-LOCAL -OUTFMT-ptc -NORM-ext -HEAPSIZE-500 -MINLEN-0
-MAXLEN-200000000 -USER-USO9966880_GCGN_11_63_Grunat_14062003_175623_11119
-NCPUG- CICPU-3 -NO_MAAP -LARGEQUERY -NEG_SCORES-0 -WAIT -DSPBLOCK-100
-LONGLOG -DEV_TIMEOUT-120 -WARN_TIMEOUT-30 -THEADSIZE-500 -XGAPPEXT-60
-LONGLOG -DEV_TIMEOUT-12 -WARN_TIMEOUT-30 -THEADSIZE-500 -XGAPPEXT-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1442, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4945, Ap
Sequence 79, Appl
Sequence 4924, Ap
                                                                                                                                                     (without alignments)
6776.242 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                             1 acagacgaatacatggtcca.....tcaaactcctgacctcagag 5514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Published_Applications_AA:*

1: \cgn2_6/ptodata/1/pubpaa/USO8_NEW_PUB.pep:*

2: \cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*

3: \cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*

4: \cgn2_6/ptodata/1/pubpaa/USO6_NEW_PUB.pep:*

5: \cgn2_6/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*

6: \cgn2_6/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*

7: \cgn2_6/ptodata/1/pubpaa/USO2_NEW_PUB.pep:*

8: \cgn2_6/ptodata/1/pubpaa/USO2_NEW_PUB.pep:*

9: \cgn2_6/ptodata/1/pubpaa/USO3_NEW_PUB.pep:*

10: \cgn2_6/ptodata/1/pubpaa/USO3_NEW_PUB.pep:*

11: \cgn2_6/ptodata/1/pubpaa/USO3_NEW_PUB.pep:*

12: \cgn2_6/ptodata/1/pubpaa/USO3_NEW_PUB.pep:*

13: \cgn2_6/ptodata/1/pubpaa/USO3_NEW_PUB.pep:*

13: \cgn2_6/ptodata/1/pubpaa/USO3_NEW_PUB.pep:*

13: \cgn2_6/ptodata/1/pubpaa/USO3_NEW_PUB.pep:*

13: \cgn2_6/ptodata/1/pubpaa/USO3_NEW_PUB.pep:*
                                                                                                                                 ; Search time 174 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep:*/cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*
                 GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                           protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10 US-09-925-301-1442
9 US-09-764-891-4945
10 US-09-995-494-79
9 US-09-764-891-4924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                      408643 seqs, 106915682 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                      ), Xgapext 60.0
), Ygapext 60.0
), Fgapext 7.0
), Delext 7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Listing first 45 summaries
                                                                                                                                 June 14, 2003, 19:16:40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq length: 0 seq length: 2000000000
                                                                                                                                                                                                           US-09-966-880A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       103
115
115
81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                      60.0
6.0
6.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Command line parameters:
                                                                                                                                                                                                                                                                                                      Xgapop
Ygapop
                                                                                                                                                                                                                                                                                                                                              Fgapop
Delop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.1
                                                                                                                                                                                                                                                                                      OFIGO
                                                                                                                                                                                                                           Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22
119
119
```

```
; NAME/KEY: SITE
; LOCATION: (113)
; OTHER INFORMATION:
US-09-764-891-4945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-764-891-4924
                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 79
LENGTH: 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No.:
                                                                                                                                                        Score:
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                    5448 TGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCTGAC 5507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       UCCATION: (7)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
NAME/KEY: SITE
LOCATION: (13)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
LOCATION: (57)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
NAME/KEY: SITE
LOCATION: (87)
LOCATION: (85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: SITE
LOCATION: (94)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: SITE LOCATION: (111)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                            OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids MAME/KEY: SITE LOCATION: (86) OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCATION: (95)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 4945, Application US/09764891
Publication No. US20030077808A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PC006
CURRENT APPLICATION NUMBER: US/09/764,891
CURRENT APPLICATION NUMBER: US/09/764,891
PFILO APPLICATION STEELS 2001-01-17
PRIOR APPLICATION OF REMOVED TEMPORE OF SEQ ID NOS: 10231
SOFTWARE: Patentin Ver. 2.0
                                        103
22
0
0
0
                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                           US-09-966-880A-9 (1-5514) x US-09-925-301-1442 (1-103)
                                   1.22e-10
22.00
100.00%
100.00%
1.27%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCATION: (87)
OTHER INFORMATION: Xaa equals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Xaa equals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                           5508 CTCAGA 5513
                                                                                                                                                                                                                                                                                                                                                               102 LeuArg 103
                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCATION: (96)
OTHER INFORMATIO
NAME/KEY: SITE
LOCATION: (102)
OTHER INFORMATIO
                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-764-891-4945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: SITE
                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 4945
LENGTH: 115
                                          Pred. No.:
                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                        à
```

```
TITLE OF INVENTION: Compositions and Methods Relating to Prostate Specific Genes a FILE REFERENCE: DEX-0293
CURRENT APPLICATION NUMBER: US/09/995,494
PRIOR APPLICATION NUMBER: 60/253,176
PRIOR RELIGATION NUMBER: 60/253,176
NUMBER OF SEQ ID NOS: 115
Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                            5446 TTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTC 5502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3614 CCACCCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGCCACCACCACCTGG 3558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05 ProProThrSerAlaSerGlnSerAlaGlyIleThrGlyValSerHisHisThrTrp 113
                                                                                                                                                                                                                                                                                                    26
                                                                                                                                                                                                                                                                               Sequence 4924, Application US/09764891
Publication No. US20030077808a1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REPERENCE: PC006
CURRENT APPLICATION NUMBER: US/09/764,891
CURRENT APPLICATION NUMBER: US/09/764,891
Prior application data removed - consult PALM or file wrapper
NUMBER OF SEQ ID NOS: 10231
SOFTWARE: PatentIn Ver. 2.0
                                                                            115
0
0
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        115
0
0
0
0
                                                                                                                                                                                                                       US-09-966-880A-9 (1-5514) x US-09-764-891-4945 (1-115)
                                                                                                                    Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-966-880A-9 (1-5514) x US-09-995-494-79 (1-115)
                                                                              Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                       US-09-995-494-79
Sequence 79, Application US/09995494
Fatent No. US2002012578A1
GENERAL INFORMATION:
APPLICANT: Salceda, Susana
APPLICANT: Macina, Roberto
APPLICANT: Recipon, Herve
APPLICANT: Cafferkey, Robert
APPLICANT: Ali, Shujath
APPLICANT: Ali, Chengming
APPLICANT: Liu, Chenghua
APPLICANT: Chen, Sei-Yu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn version 3.1
                                                                        5.89e-08
19.00
100.008
100.008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5.89e-08
19.00
100.00%
100.00%
1.09%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo sapien US-09-995-494-79
                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
```

```
; LOCATION: (82)
; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
US-09-764-891-3289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40 CysValCysValCysValCysValCysValCysValCysValCysValCys 56
                                                                                                                                                                                                                                                                                                                                                  US-09-764-891-3289

Sequence 3289, Application US/09764891

Sequence 3289, Application No. US20030077808A1

Publication No. US20030077808A1

GENERAL INFORMATION:

APPLICANT: Rosen et al.

TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies

FILE REFERENCE: PC006

CURRENT APPLICATION NUMBER: US/09/764,891

CURRENT APPLICATION NUMBER: US/09/764,891

Prior application data removed - consult PALM or file wrapper

NUMBER OF SEQ ID NOS: 10231

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 3289

LENGTH: 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 115, Application US/09908711
; Sequence 115, Application US/09908711
; General, INFORMATION:
    APPLICANT: Rosen et al.
    TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
    FILE REFERENCE: PA128
    CURRENT APPLICATION NUMBER: US/09/908,711
    CURRENT FILING DATE: 2001-07-20
    PRIOR APPLICATION NUMBER: US01/01360
    PRIOR APPLICATION NUMBER: US01/0137
    PRIOR PILING DATE: 2001-01-17
    PRIOR FILING DATE: 2001-01-17
    PRIOR FILING DATE: 2001-01-17
    PRIOR FILING DATE: 2001-01-17
    PRIOR FILING DATE: 2001-01-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98
17
0
0
0
                                                                                               71
17
0
0
0
                                                                                                                                Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                           US-09-966-880A-9 (1-5514) x US-09-820-843A-111 (1-71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-966-880A-9 (1-5514) x US-09-764-891-3289 (1-98)
                                                                                             Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
   ; NAME/KEY: misc_feature
; OTHER INFORMATION: gi|6996498
US-09-820-843A-111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3.76e-06
17.00
100.008
100.008
0.988
                                                                                           3.96e-06
17.00
100.00%
100.00%
0.98%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                   Best Local Similarity:
                                                                                                                                  Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
US-09-908-711-115
                                                                              Aliqnment Scores:
                                                                                                                                                                      Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE
                                                                                                 ..
0
                                                                                                 Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 111, Application US/09820843A

Sequence 111, Application US/09820843A

Sequence 111, Application US/09820843A

GENERAL INFORMATION:
TITLE OF INVENTION:
TITLE OF INVENTION: OSEFUL AS ANTI-INFECTIVES
FILE REFERENCE: 063915

CURRENT FILING DATE: 2001-03-30

NUMBER OF SEQ ID NOS: 118

SEQ ID NO 11

LENGTH: 71

LENGTH: 71

LENGTH: 71

LENGTH: 71

LENGTH: 71
                                                                                                                                                                                                                                                                                              5446 TTTGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTC 5496
                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1350, Application US/09764877

Sequence 1350, Application US/09764877

GENERAL INFORMATION:

APPLICANT: Rosen et al.

TILLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PC005

CURRENT APPLICATION NUMBER: US/09/764,877

CURRENT APPLICATION NUMBER: US/09/764,877

FILOR APPLICATION DATE: 2001-01-17

Prior application data removed - refer to PALM or file wrapper

NUMBER OF SEQ ID NOS: 4031

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 1350

LENGTH: 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10 PheValPheLeuValGluMetGlyPheHisHisValGlyGlnAlaGlyLeu 26
                                                                                                                                  81
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
0
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                            US-09-966-880A-9 (1-5514) x US-09-764-891-4924 (1-81)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-966-880A-9 (1-5514) x US-09-764-877-1350 (1-60)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: L. major
FEATURE:
NAME/KEY: misc_feature
OTHER INFORMATION: hypothetical protein P1105.01
                                                                                                                                                                                                          Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.07e-06
17.00
100.008
100.008
0.988
                                                                                                                            4.92e-07
18.00
100.008
100.008
; SEQ ID NO 4924
; LENGTH: 81
: TYPE: PRT
; OKGANISM: HOMO SapienS
US-09-764-891-4924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT; ORGANISM: HOMO Sapiens
US-09-764-877-1350
                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                          US-09-764-877-1350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
Pred. No.:
                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
DB:
                                                                                                                                  Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                           RESULT 5
                                                                                                                                                     Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                     g
```

us-09-966-880a-9.olin2p.rapb

```
PRIOR APPLICATION NUMBER: US01/01345
PRIOR FILING DATE: 2001-01-17
PRIOR PILING DATE: 2001-01-17
PRIOR PILING DATE: 2001-01-17
PRIOR APPLICATION NUMBER: US01/01329
PRIOR FILING DATE: 2001-01-17
PRIOR PELING DATE: 2000-01-17
PRIOR PELING DATE: 2000-01-17
PRIOR PELING DATE: 2000-01-17
PRIOR PELING DATE: 2000-01-17
PRIOR PELING DATE: 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Pat
SEQ ID NO 115
LENGTH: 98
```

NAME/KEY: SITE LOCATION: (82)

```
US-10-102-301-20/
Sequence 207, Application US/10082830
Publication No. US20030077604A1
GENERAL INFORMATION:
APPLICANT: Sun, Yongming
APPLICANT: Salceda, Susana
APPLICANT: Lu', Chenghua
TITLE OF INVENTION: Compositions and Methods Relating to Breast Specific
TITLE OF INVENTION: Compositions and Proteins
FILE REFERENCE: DEX-0249
CURRENT APPLICATION NUMBER: US/10/082,830
CURRENT FILING DATE: 2001-10-29
PRIOR APPLICATION NUMBER: 66/243,802
PRIOR APPLICATION NUMBER: 66/243,802
PRIOR SPELIANG DATE: 2000-10-27
NUMBER OF SEQ ID NOS: 282
SOFTWARE PATENTIN VET. 2.1
; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids US-09-908-711-115
                                                                                                                                                                                                                                5446 TITGIAITITIAGIAGAGAIGGGGITTCACCAIGITGGCCAGGCTGGTCTC 5496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
FILE REFERENCE: PA105
CURRENT APPLICATION NUMBER: US/09/925,297
CURRENT FILING DATE: 2001-08-10
FRIOR APPLICATION NUMBER: PCT/US00/05989
PRIOR FILING DATE: 2000-03-08
PRIOR FILING DATE: 1909-03-12
NUMBER OF SEQ ID NOS: 928
SOFTWARE: PATENTI Ver: 2.0
SEQ ID NO 833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             126
17
0
0
0
                                                                       98
17
0
0
0
                                                                       Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-966-880A-9 (1-5514) x US-10-082-830-207 (1-126)
                                                                                                                                                                                                  US-09-966-880A-9 (1-5514) x US-09-908-711-115 (1-98)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
                                                                                                                                            Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
8-09-03-22-237-833
; Sequence 833, Application US/09925297
; Patent No. US20020081659A1
                                                               3.76e-06
17.00
100.008
100.008
0.988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3.61e-06
17.00
100.00%
100.00%
0.98%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-082-830-207
                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                          US-10-082-830-207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 207
LENGTH: 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No.:
                                                                       Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                   δχ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5494 GACCAGCCTGGCCAACATGGTGAAACCCCATCTTACTAAAATACAA 5447
                                                                                                                                                                                5457 AGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCAAACTCCT 5504
                                                                                                                                                                                              4 SerArgAspGlyValSerProCysTrpProGlyTrpSerGlnThrPro 19
                                                                                                                                                                                                                                                   Sequence 742, Application US/09925302

Sequence 742, Application US/09925302

GENERAL INPORMATION:

TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies

FILE REFERENCE: PA104

CURRENT APPLICATION NUMBER: US/09/925,302

CURRENT FILING DATE: 2001-08-10

PRIOR APPLICATION NUMBER: PCT/US00/05918

PRIOR FILING DATE: 2001-08-10

PRIOR FILING DATE: 1999-03-12

NUMBER OF SEQ ID NOS: 896

SOFTWARE: PATCHT VET. 2.0

SEQ ID NO 742

LENGTH: 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0000
                                                                                              Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-966-880A-9 (1-5514) x US-09-925-302-742 (1-55)
                                                                                                                                                        US-09-966-880A-9 (1-5514) x US-09-925-297-833 (1-22)
                                                                        Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
                                                                    3.79e-05
16.00
100.00%
100.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3.26e-05
16.00
100.00%
100.00%
0.92%
; LENGTH: 22
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-925-297-833
                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
CORGANISM: Homo sapiens
US-09-925-302-742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; ORGANISM: Homo sapiens US-09-764-891-4886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                RESULT 11
US-09-925-302-742
                                                          Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
Pred. No.:
                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score:
                                                                                                                                                                                ô
                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
```

```
Sequence 150, Application US/10078090

Fublication No. US20030044815A1

GENERAL INFORMATION:

APPLICANT: Salceda, Susana

APPLICANT: Recipon, Herve

APPLICANT: Recipon, Herve

APPLICANT: Sun, Yongming

APPLICANT: Sun, Yongming

APPLICANT: Sun, Yongming

APPLICANT: Sun, Yongming

APPLICANT: Liu, Chenghua

TITLE OF INVENTION: Compositions and Methods Relating to Breast Specific Genes and

FILE REFERENCE: DEX-0312

CURRENT FILING DATE: 2002-02-14

PRIOR FILING DATE: 2001-02-15

VUMBER OF SEC ID NOS: 210

SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 14

US-10-1157A-187

US-10-016-157A-187

Sequence 187, Application US/10016157A

Publication No. US20020192220A1

GENERAL INFORMATION:
APPLICANT: Sun, Yonguing

APPLICANT: Recipon, Herve
APPLICANT: Action, Malavika
APPLICANT: Liu, Chenghua

TITLE OF INVENTION: Compositions and Methods Relating to Colon Specific Genes and
FILE REFERENCE: DEX-0253

CURRENT APPLICATION NUMBER: US/10/016,157A

CURRENT FILING DATE: 2001-10-31

PRIOR FILING DATE: 2000-10-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2843
                                                                                                                                                                      3617 GATCCACCACCTCAGCCTCCCAGAGTGCTGGGATTACAGGCGTGAGC 3570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                        67
16
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94
0
0
0
0
                                                                                                                                    US-09-966-880A-9 (1-5514) x US-09-764-891-4886 (1-67)
                                               Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-966-880A-9 (1-5514) x US-10-078-090-150 (1-94)
              Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches:
                                                                                 Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 250
SOFTWARE: PatentIn version 3.1
              3.16e-05
16.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16.00
100.00%
100.00%
0.92%
                                           100.00%
100.00%
0.92%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2.99e-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Homo sapien
                                           Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-078-090-150
                                                                                                                                                                                                                                                          US-10-078-090-150
Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 150
LENGTH: 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                 Query Match:
DB:
                ..
No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No.:
```

```
Sequence 280, Application US/10074475

Sequence 280, Application US/10074475

CONTROL OF US20030092898A1

GENERAL INFORMATION:

APPLICANT: Macina, Roberto

APPLICANT: Macina, Roberto

APPLICANT: Rarra, Kalpana

APPLICANT: Rarra, Kalpana

APPLICANT: Cafferkey, Robert

APPLICANT: Liu, Chenghua

FILE OF INVENTION: Genes and Proteins

FILE REFERENCE: DEX-0313

CURRENT APPLICATION NUMBER: G0.268,292

PRIOR FILING DATE: 2001-02-13

PRIOR FILING DATE: 2001-02-13

PRIOR FILING DATE: 2001-02-13

FUNDRER OF SEQ ID NOS: 295

SEQ ID NO 280

LENGHH: 101

TANDE: PRIOR

LENGHH: 101
                                                                                                                                                                                                                                                                                               101
16
0
0
0
                                                                                                                                                                                                                                                            US-09-966-880A-9 (1-5514) x US-10-016-157A-187 (1-100)
                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-966-880A-9 (1-5514) x US-10-074-475-280 (1-101)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps:
                                                                                                                         2.96e-05
16.00
100.00$
100.00$
0.92$
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.95e-05
16.00
100.00%
100.00%
0.92%
                                                  ; ORGANISM: Homo sapiens US-10-016-157A-187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-074-475-280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                           Alignment Scores:
; SEQ ID NO 187
; LENGTH: 100
                                      TYPE: PRT
                                                                                                                                                                                                    Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match:
DB:
                                                                                                                               Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                          RESULT 15
                                                                                                                                                    Score:
                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

Search completed: June 14, 2003, 19:43:11 Job time : 183 secs

ì